

Expansion of Hong Kong International Airport into a Three-Runway System

Construction Phase Monthly EM&A Report No.18 (For June 2017)

July 2017

Airport Authority Hong Kong

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This Monthly EM&A Report No. 18 has been reviewed and certified by the Environmental Team Leader (ETL) in accordance with

Condition 3.5 of Environmental Permit No. EP-489/2014.

Certified by:

Terence Kong

Environmental Team Leader (ETL) Mott MacDonald Hong Kong Limited

Date 17 July 2017



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By Email

Airport Authority Hong Kong HKIA Tower, 1 Sky Plaza Road Hong Kong International Airport Lantau, Hong Kong

Attn: Mr. Lawrence Tsui, Principal Manager

17 July 2017

Dear Sir,

Contract No. 3102 **3RS Independent Environmental Checker Consultancy Services**

Submission of Monthly EM&A Report No.18 (June 2017)

Reference is made to the Environmental Team's submission of the Monthly EM&A Report No.18 under Condition 3.5 of the Environmental Permit No. EP-489/2014 certified by the ET Leader on 17 July 2017.

We write to verify the captioned submission in accordance with the requirement stipulated in Condition 3.5 of EP-489/2014.

Should you have any query, please feel free to contact the undersigned at 3922 9376.

Yours faithfully, AECOM Asia Co. Ltd.

Jackel Law

Independent Environmental Checker

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Executive Summary

The "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) serves to meet the future air traffic demands at Hong Kong International Airport (HKIA). On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the Project was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual).

This is the 18th Construction Phase Monthly EM&A Report for the Project which summarizes the monitoring results and audit findings of the EM&A programme during the reporting period from 1 to 30 June 2017.

Key Activities in the Reporting Period

The key activities of the Project carried out in the reporting period included deep cement mixing (DCM) works and trials, laying of sand blanket, site office establishment and horizontal directional drilling (HDD) works.

EM&A Activities Conducted in the Reporting Period

The monthly EM&A programme was undertaken in accordance with the Manual of the Project. During the reporting period, the ET conducted 33 sets of construction dust measurements, 22 sets of construction noise measurements, 12 events of water quality measurements, two complete sets of small vessel line-transect surveys and five days of land-based theodolite tracking survey effort for Chinese White Dolphin (CWD) monitoring and waste monitoring. Construction works on Sheung Sha Chau Island was suspended during the ardeid's breeding season (between April and July). The ecological monitoring is therefore suspended.

Weekly site inspections of the construction works were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. Bi-weekly site inspections were also conducted by the Independent Environmental Checker (IEC). Observations have been recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

On the implementation of Marine Mammal Watching Plan (MMWP), silt curtains were in place by the contractors for laying of sand blanket and dolphin observers were deployed in accordance with the plan. On the implementation of Dolphin Exclusion Zone (DEZ) Plan, dolphin observers at 10 to 13 dolphin observation stations were deployed for continuous monitoring of the DEZ by all contractors for DCM works in accordance with the DEZ Plan. Trainings for the proposed dolphin observers were provided by the ET prior to the aforementioned works, with the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains or the DEZs in this reporting month. Audits of acoustic decoupling for construction vessels were also carried out by the ET.

On the implementation of the Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan), the daily movements of all SkyPier high speed ferries (HSFs) in June 2017 were in the range of 56 to 95 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 834 HSF movements under the SkyPier Plan were recorded in the reporting period. All HSFs had travelled through the Speed Control Zone (SCZ) with average speeds under 15 knots (9.9 to 14.0 knots), which were in compliance with the SkyPier Plan. One ferry movement with minor deviation from the diverted route is under investigation by ET. The investigation result will be presented in the next monthly EM&A report. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigation or actions accordingly. Three meetings were held with Ferry Operator representatives in June 2017 to review and discuss the deviation cases as well as to share experience and recommendations to further strengthen the implementation of SkyPier Plan.

On the implementation of the Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV), the Marine Surveillance System (MSS) automatically recorded the deviation case such as speeding, entering no entry zone, not traveling through the designated gate. ET conducted checking to ensure the MSS records all deviation cases accurately. Training has been provided for the concerned skippers to facilitate them in familiarising with the requirements of the MTRMP-CAV. ET reminded contractors that all vessels shall avoid entering the no-entry zone, in particular the Brothers Marine Park. 3-month rolling programmes for construction vessel activities were also received from contractors.

Results of Impact Monitoring

The monitoring works for construction dust, construction noise, water quality, construction waste and CWD were conducted during the reporting period in accordance with the Manual.

No exceedance of the Action or Limit Levels in relation to construction dust, construction noise, construction waste and CWD monitoring was recorded in the reporting month.

The water quality monitoring results for total alkalinity and SS obtained during the reporting period did not trigger their corresponding Action and Limit Levels stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme if being exceeded. For DO, turbidity, chromium, and nickel, some of the testing results exceeded the relevant Action or Limit Levels, and the corresponding investigations were conducted accordingly. The investigation findings concluded that the exceedances were not due to the Project.

Summary of Upcoming Key Issues

Key activities anticipated in the next reporting period for the Project will include the following:

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

- HDD works; and
- Stockpiling of excavated materials from HDD operation.

DCM Works:

Contract 3201 to 3205 DCM Works

- Laying of geotextile and sand blanket; and
- DCM works and trials.

Reclamation Works:

Contract 3206 Main Reclamation Works

- Site office establishment; and
- Laying of sand blanket.

The key environmental issues will be associated with construction dust, construction noise, water quality, construction waste management and CWD. The implementation of required mitigation measures by the contractor will be monitored by the ET.







Dolphin Exclusion Zone Monitoring by Dolphin Observer



Chemical Spill Drill conducted by the Contractor

Summary Table

The following table summarizes the key findings of the EM&A programme during the reporting period:

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Exceedance of Limit Level^		✓	No exceedance of project-related limit level was recorded.	Nil
Exceedance of Action Level^		✓	No exceedance of project-related action level was recorded.	Nil
Complaints Received		✓	No construction activities related complaints were received.	The investigation detail of the complaint received on 22 May 2017 is presented in S7.8.1.
Notification of any summons and status of prosecutions	✓		Summons were received in June 2017 regarding the aviation fuel pipeline diversion works in December 2016.	Judicial process underway.
Changes that affect the EM&A		✓	There were no changes to the construction works that may affect the EM&A	Nil

Remarks: ^Only exceedance of action/ limit level related to Project works will be highlighted.

1 Introduction

1.1 Background

On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual) submitted under EP Condition 3.1. The Manual is available on the Project's dedicated website (accessible at: http://env.threerunwaysystem.com/en/index.html). AECOM Asia Company Limited (AECOM) was employed by AAHK as the Independent Environmental Checker (IEC) for the Project.

The Project covers the expansion of the existing airport into a three-runway system (3RS) with key project components comprising land formation of about 650 ha and all associated facilities and infrastructure including taxiways, aprons, aircraft stands, a passenger concourse, an expanded Terminal 2, all related airside and landside works and associated ancillary and supporting facilities. The existing submarine aviation fuel pipelines and submarine power cables also require diversion as part of the works.

Construction of the Project is to proceed in the general order of diversion of the submarine aviation fuel pipelines, diversion of the submarine power cables, land formation, and construction of infrastructure, followed by construction of superstructures.

The updated overall phasing programme of all construction works was presented in Appendix A of the Construction Phase Monthly EM&A Report No. 7 and the contract information was presented in Appendix A of the Construction Phase Monthly EM&A Report No.15.

1.2 Scope of this Report

This is the 18th Construction Phase Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 to 30 June 2017.

1.3 Project Organisation

The Project's organization structure presented in Appendix B of the Construction Phase Monthly EM&A Report No.1 remained unchanged during the reporting month. Contact details of the key personnel have been updated and is presented in **Table 1.1**.

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Manager's Representative (Airport Authority Hong Kong)	Principal Manager, Environment	Lawrence Tsui	2183 2734

Party	Position	Name	Telephone
Environmental Team (ET) (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Terence Kong	2828 5919
	Deputy Environmental Team Leader	Heidi Yu	2828 5704
	Deputy Environmental Team Leader	Keith Chau	2972 1721
Independent Environmental Checker (IEC) (AECOM Asia Company Limited)	Independent Environmental Checker	Jackel Law	3922 9376
,	Deputy Independent Environmental Checker	Joanne Tsoi	3922 9423
Advanced Works:			
Contract P560(R) Aviation Fuel Pipeline Diversion Works (Langfang Huayuan Mechanical and Electrical Engineering Co., Ltd.)	Project Manager	Wei Shih	2117 0566
	Environmental Officer	Lyn Lau	5172 6543
DCM Works:		_	
Contract 3201 DCM (Package 1) (Penta-Ocean-China State- Dong-Ah Joint Venture)	Project Director	Tsugunari Suzuki	9178 9689
,	Environmental Officer	Sze Ming Chan	9384 5494
Contract 3202 DCM (Package 2) (Samsung-BuildKing Joint Venture)	Project Manager	Ilkwon Nam	9643 3117
	Environmental Officer	Dickson Mak	9525 8408
Contract 3203 DCM (Package 3) (Sambo E&C Co., Ltd)	Project Manager	Seong Jae Park	9683 8693
	Environmental Officer	Calvin Leung	9203 5820
Contract 3204 DCM (Package 4) (CRBC-SAMBO Joint Venture)	Project Manager	Kyung-Sik Yoo	9683 8697
	Environmental Officer	Kanny Cho	9724 6254
Contract 3205 DCM (Package 5) (Bachy Soletanche - Sambo Joint Venture)	Deputy Project Director	Min Park	9683 0765
	Environmental Officer	Margaret Chung	9130 3696

Party	Position	Name	Telephone
Contract 3206 (ZHEC-CCCC-CDC Joint Venture)	Project Manager	Kim Chuan Lim	3693 2288
	Environmental Officer	Kwai Fung Wong	3693 2252

1.4 Summary of Construction Works

The key activities of the Project carried out in the reporting period included DCM works and trials, laying of sand blanket, site office establishment and HDD works.

1.5 Summary of EM&A Programme Requirements

The status for all environmental aspects is presented **Table 1.2**. The EM&A requirements remained unchanged during the reporting period and details can be referred to Table 1.2 of the Construction Phase Monthly EM&A Report No. 1.

Table 1.2: Summary of status for all environmental aspects under the Updated EM&A Manual

Parameters	Status		
Air Quality			
Baseline Monitoring	The baseline air quality monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.		
Impact Monitoring	On-going		
Noise			
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.		
Impact Monitoring	On-going		
Water Quality			
General Baseline Water Quality Monitoring for reclamation, water jetting and field joint works	The baseline water quality monitoring result has been reported in Baseline Water Quality Monitoring Report and submitted to EPD under EP Condition 3.4.		
General Impact Water Quality Monitoring for reclamation, water jetting and field joint works	On-going		
Initial Intensive Deep Cement Mixing (DCM) Water Quality Monitoring	Completed in May 2017 and data analysis in-progress.		
Early/ Regular DCM Water Quality Monitoring	On-going		
Waste Management			
Waste Monitoring	On-going		
Land Contamination			
Supplementary Contamination Assessment Plan (CAP)	To be submitted with the relevant construction works.		
Contamination Assessment Report (CAR) for Golf Course	The CAR for Golf Course was submitted to EPD.		
Terrestrial Ecology			
Pre-construction Egretry Survey Plan	The Egretry Survey Plan was submitted and approved by EPD under EP Condition 2.14.		
Ecological Monitoring	Construction works on Sheung Sha Chau Island was suspended during the ardeid's breeding season (between April and July). The ecological monitoring is therefore suspended.		

Parameters	Status	
Marine Ecology		
Pre-Construction Phase Coral Dive Survey	The Coral Translocation Plan was submitted and approved by EPD under EP Condition 2.12.	
Coral Translocation	The coral translocation was completed.	
Post-Translocation Coral Monitoring	On-going	
Chinese White Dolphins (CWD)		
Vessel Survey, Land-based Theodolite Tracking and Passive Acoustic Monitoring (PAM)		
Baseline Monitoring	Baseline CWD results were reported in the CWD Baseline Monitoring Report and submitted to EPD in accordance with EP Condition 3.4.	
Impact Monitoring	On-going On-going	
Landscape & Visual		
Baseline Monitoring	The baseline landscape & visual monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.	
Impact Monitoring	On-going	
Environmental Auditing		
Regular site inspection	On-going On-going	
Marine Mammal Watching Plan (MMWP) implementation measures	On-going	
Dolphin Exclusion Zone Plan (DEZP) implementation measures	On-going	
SkyPier High Speed Ferries (HSF) implementation measures	On-going	
Construction and Associated Vessels Implementation measures	On-going	
Complaint Hotline and Email channel	On-going	
Environmental Log Book	On-going	

Taking into account the construction works in this reporting month, impact monitoring of air quality, noise, water quality, waste management and CWD were carried out in the reporting month.

The EM&A programme also involved weekly site inspections and related auditing conducted by the ET for checking the implementation of the required environmental mitigation measures recommended in the approved EIA Report. In order to enhance environmental awareness and closely monitor the environmental performance of the contractors, environmental briefings and regular environmental management meetings were conducted.

The EM&A programme has been following the recommendations presented in the approved EIA Report and the Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix A**.

2 Air Quality Monitoring

2.1 Monitoring Stations

Air quality monitoring was conducted at two representative monitoring stations in the vicinity of air sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Table 2.1** describes the details of the monitoring stations. **Figure 2.1** shows the locations of the monitoring stations.

Table 2.1: Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location
AR1A	Man Tung Road Park
AR2	Village House at Tin Sum

2.2 Monitoring Requirements and Schedule

In accordance with the Manual, baseline 1-hour total suspended particulate (TSP) levels at the two air quality monitoring stations were established as presented in the Baseline Monitoring Report. Impact 1-hour TSP monitoring was conducted for three times every 6 days. The Action and Limit Levels of the air quality monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 2.2**.

The air quality monitoring schedule involved in the reporting period is provided in **Appendix B**.

Table 2.2: Action and Limit Levels for 1-hour TSP

Monitoring Station	Action Level (μg/m³)	Limit Level (μg/m³)
AR1A	306	500
AR2	298	

2.3 Monitoring Equipment

Portable direct reading dust meter was used to carry out the 1-hour TSP monitoring. Details of equipment are given in **Table 2.3**.

Table 2.3: Air Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Portable direct reading dust meter (Laser dust monitor)	SIBATA LD-3B-002 (Serial No. 974350)	26 Oct 2016

2.4 Monitoring Methodology

2.4.1 Measuring Procedure

The measurement procedures involved in the impact 1-hr TSP monitoring can be summarised as follows:

a. The portable direct reading dust meter was mounted on a tripod at a height of 1.2 m above the ground.

- b. Prior to the measurement, the equipment was set up for 1 minute span check and 6 second background check.
- c. The one hour dust measurement was started. Site conditions and dust sources at the nearby area were recorded on a record sheet.
- d. When the measurement completed, the "Count" reading per hour was recorded for result calculation.

2.4.2 Maintenance and Calibration

The portable direct reading dust meter is calibrated every year against high volume sampler (HVS) to check the validity and accuracy of the results measured by direct reading method. The calibration certificates of the portable direct reading dust meter and calibration record of the HVS provided in Appendix B of the Construction Phase Monthly EM&A Report No.11 are still valid. Any updates of calibration certificates will be reported in the Monthly EM&A report if necessary.

2.5 Analysis and Interpretation of Monitoring Results

The monitoring results for 1-hour TSP are summarized in **Table 2.4**. Detailed impact monitoring results are presented in **Appendix C**.

Table 2.4: Summary of 1-hour TSP Monitoring Results

Monitoring Station	1-hr TSP Concentration Range (µg/m³)	Action Level (μg/m³)	Limit Level (μg/m³)
AR1A	0.3 – 48	306	500
AR2	5 – 26	298	_

No exceedance of the Action or Limit Level was recorded at all monitoring stations in the reporting period.

General meteorological conditions throughout the impact monitoring period were recorded. Wind data including wind speed and wind direction for each monitoring day were collected from the Chek Lap Kok Wind Station.

3 Noise Monitoring

3.1 Monitoring Stations

Noise monitoring was conducted at five representative monitoring stations in the vicinity of noise sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Figure 2.1** shows the locations of the monitoring stations and these are described in **Table 3.1** below. As described in Section 4.3.3 of the Manual, monitoring at NM2 will commence when the future residential buildings in Tung Chung West Development become occupied.

Table 3.1: Locations of Impact Noise Monitoring Stations

Monitoring Station	Location	Type of measurement
NM1A	Man Tung Road Park	Free field
NM2 ⁽¹⁾	Tung Chung West Development	To be determined
NM3A	Site Office	Facade
NM4	Ching Chung Hau Po Woon Primary School	Free field
NM5	Village House in Tin Sum	Free field
NM6	House No. 1, Sha Lo Wan	Free field

Note: (1) As described in Section 4.3.3 of the Manual, noise monitoring at NM2 will only commence after occupation of the future Tung Chung West Development.

3.2 Monitoring Requirements and Schedule

In accordance with the Manual, baseline noise levels at the noise monitoring stations were established as presented in the Baseline Monitoring Report. Impact noise monitoring was conducted once per week in the form of 30-minute measurements of L_{eq} , L_{10} and L_{90} levels recorded at each monitoring station between 0700 and 1900 on normal weekdays. The Action and Limit Levels of the noise monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 3.2**. The construction noise monitoring schedule involved in the reporting period is provided in **Appendix B**.

Table 3.2: Action and Limit Levels for Construction Noise

Monitoring Stations	Time Period	Action Level	Limit Level, L _{eq(30mins)} dB(A)
NM1A, NM2, NM3A, NM4, NM5 and NM6	0700-1900 hours on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A) ⁽ⁱ⁾

Note: (1) Reduced to 70dB(A) for school and 65dB(A) during school examination periods. School examination took place from 5 to 9 June 2017 in the reporting period.

3.3 Monitoring Equipment

Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was used to check the sound level meters by a known sound pressure level for field measurement. Details of equipment are given in **Table 3.3**.

Table 3.3: Noise Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Integrated Sound Level Meter	B&K 2238 (Serial No. 2800932)	19 Jul 2016
	B&K 2238 (Serial No. 2381580)	8 Sep 2016
Acoustic Calibrator	B&K 4231 (Serial No. 3003246)	16 May 2017
	B&K 4231 (Serial No. 3004068)	19 Jul 2016

3.4 Monitoring Methodology

3.4.1 Monitoring Procedure

The monitoring procedures involved in the noise impact monitoring can be summarised as follows:

- a. The sound level meter was set on a tripod at least a height of 1.2 m above the ground for free-field measurements at monitoring stations NM1A, NM4, NM5 and NM6. A correction of +3 dB(A) was applied to the free field measurements.
- b. Façade measurements were made at the monitoring station NM3A.
- c. Parameters such as frequency weighting, time weighting and measurement time were set.
- d. Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- e. During the monitoring period, L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a record sheet.
- f. Noise measurement results were corrected with reference to the baseline monitoring levels.
- g. Observations were recorded when high intrusive noise (e.g. dog barking, helicopter noise) was observed during the monitoring.

3.4.2 Maintenance and Calibration

The maintenance and calibration procedures are summarised below:

- a. The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
- b. The meter and calibrator were sent to the supplier or laboratory accredited under Hong Kong Laboratory Accreditation Scheme (HOKLAS) to check and calibrate at yearly intervals.

Calibration certificates of the sound level meters and acoustic calibrators used in the noise monitoring provided in Appendix B of the Construction Phase Monthly EM&A Report No.8 & 9, and Appendix D of the Construction Phase Monthly EM&A Report No. 17 are still valid.

3.5 Analysis and Interpretation of Monitoring Results

The construction noise monitoring results are summarized in **Table 3.4** and the detailed monitoring data are provided in **Appendix C**.

Table 3.4: Summary of Construction Noise Monitoring Results

Monitoring Station	Noise Level Range, dB(A)	Limit Level, dB(A)	
	Leq (30 mins)	Leq (30 mins)	
NM1A ⁽ⁱ⁾	70 – 72	75	
NM3A	57 – 61	75	
NM4 ⁽ⁱ⁾	64 – 65	70 ⁽ⁱⁱ⁾	
NM5 ⁽ⁱ⁾	56 – 67	75	
NM6 ⁽ⁱ⁾	62 – 70	75	

Note: (i) +3 dB(A) Façade correction included;

(ii) Reduced to 65 dB(A) during school examination periods at NM4. School examination took place from 5 to 9 June 2017 in the reporting period.

As the construction activities were far away from the monitoring stations, major sources of noise dominating the monitoring stations observed during the construction noise impact monitoring were road traffic and helicopter noise at NM1A, helicopter and marine vessel noise at NM3A, noise from school bell and helicopter noise at NM4, cicadas, aircraft, and helicopter noise at NM5, and insect, aircraft, helicopter, and marine vessel noise at NM6 in this reporting month.

No exceedance of the Action/ Limit Level was recorded at all monitoring stations in the reporting period.

4 Water Quality Monitoring

4.1 Monitoring Stations

Water quality monitoring was conducted at a total of 22 water quality monitoring stations, comprising 12 impact stations, seven sensitive receiver stations and three control stations in the vicinity of water quality sensitive receivers around the airport island in accordance with the Manual. **Table 4.1** describes the details of the monitoring stations. **Figure 3.1** shows the locations of the monitoring stations.

Table 4.1: Monitoring Locations and Parameters for Impact Water Quality Monitoring

Monitoring	Description Coordinates		Parameters	
Stations		Easting	Northing	
C1	Control	804247	815620	DO, pH, Temperature,
C2	Control	806945	825682	Salinity, Turbidity, SS, Total Alkalinity, Heavy
C3 ⁽³⁾	Control	817803	822109	Metals ⁽²⁾
IM1	Impact	806458	818351	
IM2	Impact	806193	818852	
IM3	Impact	806019	819411	
IM4	Impact	805039	819570	
IM5	Impact	804924	820564	
IM6	Impact	805828	821060	
IM7	Impact	806835	821349	
IM8	Impact	807838	821695	
IM9	Impact	808811	822094	
IM10	Impact	809838	822240	
IM11	Impact	810545	821501	
IM12	Impact	811519	821162	
SR1 ⁽¹⁾	Future Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) Seawater Intake for cooling	812586	820069	DO, pH, Temperature, Salinity, Turbidity, SS
SR2 ⁽³⁾	Planned marine park / hard corals at The Brothers / Tai Mo To	814166	821463	
SR3	Sha Chau and Lung Kwu Chau Marine Park / fishing and spawning grounds in North Lantau	807571	822147	
SR4A	Sha Lo Wan	807810	817189	
SR5A	San Tau Beach SSSI	810696	816593	
SR6	Tai Ho Bay, Near Tai Ho Stream SSSI	814663	817899	
SR7	Ma Wan Fish Culture Zone (FCZ)	823742	823636	
SR8	Seawater Intake for cooling at Hong Kong International Airport (East)	811593	820417	

Notes:

⁽¹⁾ The seawater intakes of SR1 for the future HKBCF is not yet in operation, hence no water quality impact monitoring was conducted at this station. The future permanent location for SR1 during impact monitoring is subject to finalisation after the HKBCF seawater is commissioned.

4.2 Monitoring Requirements and Schedule

In accordance with the Manual, baseline water quality levels at the abovementioned representative water quality monitoring stations were established as presented in the Baseline Water Quality Monitoring Report.

General water quality monitoring and early regular DCM water quality monitoring were conducted three days per week, at mid-flood and mid-ebb tides, at the 22 water quality monitoring stations during the reporting period. The sea conditions varied from calm to rough, and the weather conditions varied from sunny to rainy during the monitoring period.

The water quality monitoring schedule for the reporting period is provided in **Appendix B**. The monitoring session on 13 June 2017 was cancelled due to adverse weather.

4.2.1 Action and Limit Levels for Water Quality Monitoring

Parameters

The Action and Limit Levels for general water quality monitoring and regular DCM monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are presented in **Table 4.2**. The control and impact stations during flood tide and ebb tide for general water quality monitoring and regular DCM monitoring are presented in **Table 4.3**.

Table 4.2: Action and Limit Levels for General Water Quality Monitoring and Regular DCM Monitoring

Limit Lovel (LL)

Action Loyal (AL)

Parameters	Action Level	(AL)	Limit Level (LL)	
Action and Limit Levels for gene (excluding SR1& SR8)	ral water quality r	monitoring and regula	DCM monitor	ing
DO in mg/L	Surface and Mid	ddle	Surface and I	Middle
(Surface, Middle & Bottom)	4.5 mg/L		4.1 mg/L 5 mg/L for Fis only	sh Culture Zone (SR7)
	Bottom		Bottom	
	3.4 mg/L		2.7 mg/L	
Suspended Solids (SS) in mg/L	23	or 120% of	37	or 130% of
Turbidity in NTU	22.6	upstream control station at the	36.1	upstream control station at the
Total Alkalinity in ppm	95	same tide of the	99	same tide of the
Representative Heavy Metals for early regular DCM monitoring (Chromium)	0.2	same day, whichever is higher	0.2	same day, whichever is higher
Representative Heavy Metals for early regular DCM monitoring (Nickel)	3.2		3.6	
Action and Limit Levels SR1				
SS (mg/l)	To be determine commissioning	ed prior to its	To be determ commissionir	ined prior to its
Action and Limit Levels SR8				
SS (mg/l)	52		60	

⁽²⁾ Details of selection criteria for the two heavy metals for early regular DCM monitoring refer to the Detailed Plan on Deep Cement Mixing available on the dedicated 3RS website http://env.threerunwaysystem.com/en/ep-submissions.html). DCM specific water quality monitoring parameters (total alkalinity and heavy metals) were only conducted at C1 to C3, SR2, and IM1 to IM12.

⁽³⁾ According to the Baseline Water Quality Monitoring Report, C3 station is not adequately representative as a control station of impact/ SR stations during the flood tide. The control reference has been changed from C3 to SR2 from 1 September 2016 onwards.

Notes:

Table 4.3: The Control and Impact Stations during Flood Tide and Ebb Tide for General Water Quality Monitoring and Regular DCM Monitoring

Control Station	Impact Stations
Flood Tide	
C1	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, SR3
SR2 ^{^1}	IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR3, SR4A, SR5A, SR6, SR8
Ebb Tide	
C1	SR4A, SR5A, SR6
C2	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR2, SR3, SR7, SR8

^{^1} As per findings of Baseline Water Quality Monitoring Report, the control reference has been changed from C3 to SR2 from 1 Sep 2016 onwards.

4.3 Monitoring Equipment

Table 4.4 summarises the equipment used for monitoring of specific water quality parameters under the impact water quality monitoring programme.

Table 4.4: Water Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date
Multifunctional Meter (measurement of DO, pH, temperature, salinity and turbidity)	YSI ProDSS (serial no. 15M101244)	16 Jun 2017
	YSI ProDSS (serial no. 16J101716)	16 Jun 2017
	YSI 6920 V2 (serial no. 00019CB2)	16 Jun 2017
	YSI 6920 V2 (serial no. 000109DF)	16 Jun 2017
Digital Titrator (measurement of total alkalinity)	Titrette Digital Burette 50ml Class A (serial no.10N65665)	19 Jun 2017

Other equipment used as part of the impact water quality monitoring programme are listed in **Table 4.5**

Table 4.5: Other Monitoring Equipment

Equipment	Brand and Model
Water Sampler	Van Dorn Water Sampler
Positioning Device (measurement of GPS)	Garmin eTrex Vista HCx
Current Meter (measurement of current speed and direction, and water depth)	Sontek HydroSurveyor

4.4 Monitoring Methodology

4.4.1 Measuring Procedure

Water quality monitoring samples were taken at three depths (at 1m below surface, at mid-depth, and at 1m above bottom) for locations with water depth >6m. For locations with water depth

⁽¹⁾ For DO measurement, non-compliance occurs when monitoring result is lower than the limits.

⁽²⁾For parameters other than DO, non-compliance of water quality results when monitoring results is higher than the limits

⁽³⁾Depth-averaged results are used unless specified otherwise.

⁽⁴⁾ Details of selection criteria for the two heavy metals for early regular DCM monitoring refer to the Detailed Plan on Deep Cement Mixing available on the dedicated 3RS website http://env.threerunwaysystem.com/en/ep-submissions.html)

⁽⁵⁾The action and limit levels for the two representative heavy metals chosen will be the same as that for the intensive DCM monitoring.

between 3m and 6m, water samples were taken at two depths (surface and bottom). For locations with water depth <3m, only the mid-depth was taken. Duplicate water samples were taken and analysed.

The water samples for all monitoring parameters were collected, stored, preserved and analysed according to the Standard Methods, APHA 22nd ed. and/or other methods as agreed by the EPD. In-situ measurements at monitoring locations including temperature, pH, DO, turbidity, salinity and water depth were collected by equipment listed in **Table 4.4** and **Table 4.5**. Water samples for heavy metals and SS analysis were stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4 °C without being frozen), delivered to the laboratory within 24 hours of collection.

4.4.2 Maintenance and Calibration

Calibration of In-situ Instruments

All in-situ monitoring instrument were checked, calibrated and certified by a laboratory accredited under HOKLAS before use. Responses of sensors and electrodes were checked with certified standard solutions before each use.

Wet bulb calibration for a DO meter was carried out before commencement of monitoring and after completion of all measurements each day. Calibration was not conducted at each monitoring location as daily calibration is adequate for the type of DO meter employed. A zero check in distilled water was performed with the turbidity probe at least once per monitoring day. The probe was then calibrated with a solution of known NTU. In addition, the turbidity probe was calibrated at least twice per month to establish the relationship between turbidity readings (in NTU) and levels of suspended solids (in mg/L). Accuracy check of the digital titrator was performed at least once per monitoring day.

The calibration certificates of the monitoring equipment used in the reporting month is updated and provided in **Appendix D**.

4.4.3 Laboratory Measurement / Analysis

Analysis of SS and heavy metals have been carried out by a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066). Sufficient water samples were collected at all the monitoring stations for carrying out the laboratory SS and heavy metals determination. The SS and heavy metals determination works were started within 24 hours after collection of the water samples. The analysis of SS and heavy metals have followed the standard methods summarised in **Table 4.6.** The QA/QC procedures for laboratory measurement/ analysis of SS and heavy metals were presented in Appendix F of the Construction Phase Monthly EM&A Report No.8.

Table 4.6: Laboratory Measurement/ Analysis of SS and Heavy Metals

Parameters	Instrumentation	Analytical Method	Reporting Limit
Suspended Solid (SS)	Analytical Balance	APHA 2540D	2 mg/L
Heavy Metals			
Chromium (Cr)	ICP-MS	USEPA 6020A	0.2 μg/L
Nickel (Ni)	ICP-MS	USEPA 6020A	0.2 μg/L

4.5 Analysis and Interpretation of Monitoring Results

4.5.1 Summary of Monitoring Results

The water quality monitoring results for total alkalinity and SS obtained during the reporting period were not triggering their corresponding Action and Limit Levels stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme if being exceeded. For DO, turbidity, chromium, and nickel, some of the testing results exceeded the relevant Action or Limit Levels, and the corresponding investigations were conducted accordingly. Details of the exceedances are presented in **Section 4.5.2**.

4.5.2 Summary of Findings for Investigation of Exceedances

During the reporting period, water quality monitoring was conducted at 12 impact (IM) stations, seven sensitive receiver (SR) stations, and three control stations in accordance with the Manual. The purpose of water quality monitoring at the IM stations is to promptly capture any potential water quality impact from the Project before it could become apparent at sensitive receivers (represented by the SR stations).

During the monitoring period, testing results exceeding the corresponding Action or Limit Levels were recorded on four monitoring days. Details of the exceedance cases are presented below.

Findings for DO Exceedances (Mid-Ebb Tide)

Table 4.7 presents a summary of the DO (Surface and Middle) compliance status at IM and SR stations during mid-ebb tide for the reporting month.

Table 4.7: Summary of DO (Surface and Middle) Compliance Status (Mid-Ebb Tide)

	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8		IM10			SR2			SR5A		SR7
01/06/2017																		
04/06/2017																		
06/06/2017																		
08/06/2017																		
10/06/2017																		
15/06/2017																		
17/06/2017																		
20/06/2017																		
22/06/2017																		
24/06/2017																		
27/06/2017																		
29/06/2017																		
No. of Exceedance		1	1	1	1	2	2	1	1	0	2	1	0	3	2	0	0	3

Note: Detailed	d results are presented in Appendix C.
Legend:	
	No exceedance of Action and Limit Level
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Action Level recorded at monitoring station located upstream of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located upstream of the Project based on dominant tidal flow
	Upstream station with respect to the Project during the respective tide based on dominant tidal flow

Table 4.8 presents a summary of the DO (Bottom) compliance status at IM and SR stations during mid-ebb tide for the reporting month.

IM1 IM2 IM3 IM4 IM5 IM6 IM7 IM8 IM9 IM10 IM11 IM12 SR2 SR3 SR4A SR5A SR6 SR7

Table 4.8: Summary of DO (Bottom) Compliance Status (Mid-Ebb Tide)

	IIVI I	IIVIZ	IIVIS	IIVI4	CIVII	IIVIO	IIVI /	IIVIO	IIVI9	IIVITO	IIVI I	IIVI I Z	SRZ	SKS	SK4A	SKSA	SKO	SK/
01/06/2017																		
04/06/2017																		
06/06/2017																		
08/06/2017																		
10/06/2017																		
15/06/2017																		
17/06/2017																		
20/06/2017																		
22/06/2017																		
24/06/2017																		
27/06/2017																		
29/06/2017																		
No. of Exceedance	0	1	2	0	1	1	0	1	0	2	0	1	0	1	1	0	0	1
Note: Detailed	resul	ts are	prese	nted ii	n App	endix	C.											
_egend:																		
	No exceedance of Action and Limit Level																	
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow																	
	Exceedance of Action Level recorded at monitoring station located upstream of the Project based on dominant tidal flow																	
	Excee		e of Li	mit Le	vel re	corde	d at m	onitori	ng sta	ation Ic	cated	down	strear	n of th	ne Pro	ject ba	sed o	n
	Excee	edance	e of Li	mit Le	vel re	cordec	d at m	onitori	ng sta	ation Ic	cated	upstr	eam c	f the F	Projec	t base	d on	

Exceedances of Action or Limit Levels were recorded on three monitoring days (two for DO (Bottom)). Repeat in-situ measurements were conducted from 21 to 25 June 2017 as stipulated in the Manual. As exceedances occurred at stations located downstream of the Project, which might be affected by the Project's construction activities, exceedance investigation was carried out.

Upstream station with respect to the Project during the respective tide based on dominant tidal flow

dominant tidal flow

As part of the investigation on downstream exceedance events, details of the Project's marine construction activities on these monitoring days were collected, as well as any observations during the monitoring. The findings are summarised in **Table 4.9**.

Table 4.9: Summary of Findings from Investigations of DO Exceedances

Date	Marine construction works nearby	Approximate distance from marine construction works*	Status of water quality measures (if applicable)	Construction vessels in the vicinity	Turbidity / Silt plume observed near the monitoring station	Exceedance due to Project
20/06/2017	DCM works Sand blanket laying	Around 500m	Silt curtain deployed	No	No	No
22/06/2017	DCM works Sand blanket laying	Around 500m	Silt curtain deployed	No	No	No
24/06/2017	DCM works Sand blanket laying	Around 500m	Silt curtain deployed	No	No	No

According to the investigation findings, it was confirmed that both DCM and sand blanket laying activities were operating normally with silt curtains deployed as additional measures. The silt curtains were maintained properly.

The monitoring results, as well as results from repeat measurement, showed that DO (Surface and Middle) and DO (Bottom) results at the control stations as well as some upstream impact stations were low (and mostly below Action or Limit Level) from 20 to 25 June 2017. This indicates that low DO was occurring over a large area including areas well outside the influence of the Project's activities, which suggests the likelihood of sources and/or causes originating outside of the Project boundaries.

As shown on the graphs (see **Appendix C**), there was a gradual decline in DO levels across almost all monitoring stations from 15 June 2017, reaching their lowest levels on 20 June 2017 before gradually increasing from 22 June 2017 onwards. This DO pattern appears to be an aftermath of a severe weather condition in Hong Kong (Severe Tropical Storm Merbok) which occurred between 12 and 13 June 2017 and was followed by a period of continuous rainfall between 13 and 21 June 2017. This meteorological event may have contributed to the widespread DO decline observed in the north Lantau waters.

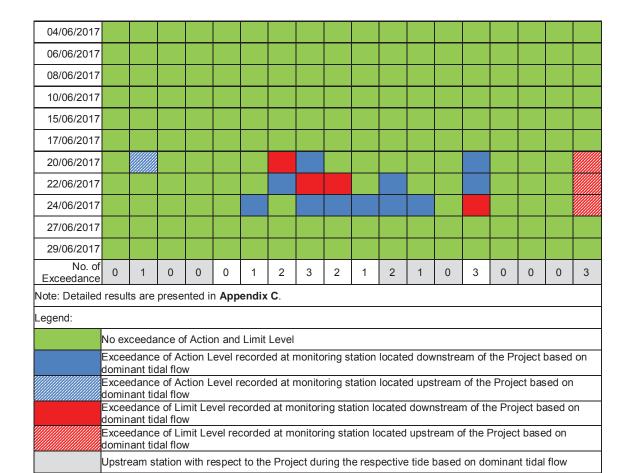
For SR stations, SR3 was located upstream of the Project boundary, hence would unlikely be affected by the Project's activities. Separately, SR4A and SR7 were recorded with Action or Limit Level exceedances on several days. Considering that SR4A and SR7 are located farther away from all other SR stations, such as SR2, which did not record similar exceedances, it was unlikely that the DO levels at SR4A and SR7 were due to the Project.

Findings for DO Exceedances (Mid-Flood Tide)

Table 4.10 presents a summary of the DO (Surface and Middle) compliance status at IM and SR stations during mid-flood tide for the reporting month. No exceedances were recorded for DO (Bottom).

Table 4.10: Summary of DO (Surface and Middle) Compliance Status (Mid-Flood Tide)

	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12	SR2	SR3	SR4A	SR5A	SR6	SR7
01/06/2017																		



Exceedances of Action and Limit Levels were recorded on three monitoring days. Repeat in-situ measurements were conducted from 21 to 25 June 2017 as stipulated in the Manual. As exceedances occurred at stations located downstream of the Project, which might be affected by the Project's construction activities, exceedance investigation was carried out.

As part of the investigation on downstream exceedance events, details of the Project's marine construction activities on these monitoring days were collected, as well as any observations during monitoring. The findings are summarised in **Table 4.9**.

According to the investigation findings, it was confirmed that both DCM and sand blanket laying activities were operating normally with silt curtains deployed as additional measures. The silt curtains were maintained properly.

Similar to the findings for ebb tide, the monitoring results showed that DO (Surface and Middle) results at the control stations as well as some upstream impact stations were low (and mostly below Action or Limit Level) from 20 to 25 June 2017. This indicates that low DO was occurring over a large area including areas well outside the influence of the Project's activities, which suggests the likelihood of sources and/or causes originating outside of the Project boundaries.

The graphs in **Appendix C** also show the same gradual decline in DO levels across almost all monitoring stations from 15 June 2017, reaching their lowest levels on 20 June 2017 before gradually increasing from 22 June 2017 onwards. It thus appears that the same phenomenon affecting ebb tide DO levels was also affecting flood tide DO levels to a similar degree.

The main SR stations affected during flood tide are SR3 and SR7. SR7 was located upstream of the Project boundary, which would unlikely be affected by the Project's activities. For SR3, the similarities with ebb tide results suggests the same cause affected SR3 during both tides.

Combining the monitoring results during ebb and flood tide from 15 June 2017 onwards, it can be concluded that the patterns of exceedances indicate a macro-scale event affecting the DO concentration in the north Lantau waters, rather than local sources. Therefore, the exceedances were considered not due to the Project.

Findings for Turbidity Exceedance (Mid-Ebb Tide)

Table 4.11 presents a summary of the turbidity compliance status at IM and SR stations during mid-ebb tide for the reporting month.

Table 4.11: Summary of Turbidity Compliance Status (Mid-Ebb Tide)

	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12	SR2	SR3	SR4A	SR5A	SR6	SR7
01/06/2017																		
04/06/2017																		
06/06/2017																		
08/06/2017																		
10/06/2017																		
15/06/2017																		
17/06/2017																		
20/06/2017																		
22/06/2017																		
24/06/2017																		
27/06/2017																		
29/06/2017																		
No. of Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Note: Detailed	ed results are presented in Appendix C.																	
Legend:																		
	No exceedance of Action and Limit Level																	
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow Exceedance of Action Level recorded at monitoring station located upstream of the Project based on dominant tidal flow																	
	Upstre	eam s	tation	with re	espect	to the	e Proje	ect du	ring th	e resp	ective	e tide l	pased	on do	minar	nt tidal	flow	

An exceedance of Action Level was recorded on one monitoring day. However, the exceedance occurred at a monitoring station which was located upstream of the Project during ebb tide, which would unlikely be affected by the Project. Therefore, the exceedance was considered not due to the Project.

Findings for Chromium Exceedance (Mid-Ebb Tide)

Table 4.12 presents a summary of the chromium compliance status at IM stations during mid-ebb tide for the reporting month.

Table 4.12: Summary of Chromium Compliance Status (Mid-Ebb Tide)

·	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12
01/06/2017												
04/06/2017												
06/06/2017												
08/06/2017												
10/06/2017												
15/06/2017												
17/06/2017												
20/06/2017												
22/06/2017												
24/06/2017												
27/06/2017												
29/06/2017												
No. of Exceedance		0	0	0	0	0	1	0	0	0	0	0
Note: Detailed	results a	are prese	nted in A	ppendix	C.							
Legend:												

No exceedance of Action and Limit Level

Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow

Exceedance of Action Level recorded at monitoring station located upstream of the Project based on dominant tidal flow

Upstream station with respect to the Project during the respective tide based on dominant tidal flow

An exceedance of Limit Level was recorded on one monitoring day. However, the exceedance occurred at a monitoring station which was located upstream of the Project during ebb tide, which would unlikely be affected by the Project. Therefore, the exceedance was considered not due to the Project.

Findings for Nickel Exceedances (Mid-Flood Tide)

Table 4.13 presents a summary of the nickel compliance status at IM stations during mid-flood tide for the reporting month.

Table 4.13: Summary of Nickel Compliance Status (Mid-Flood Tide)

	IM1	IM2	IM3	IM4	IM5	IM6	IM7	IM8	IM9	IM10	IM11	IM12
01/06/2017												
04/06/2017												
06/06/2017												
08/06/2017												
10/06/2017												
15/06/2017												
17/06/2017												
20/06/2017												
22/06/2017												

24/06/2017												
27/06/2017												
29/06/2017												
No. of Exceedance	()	0	0	0	0	0	1	1	1	1	1	1
Note: Detailed	l results a	are prese	nted in A	ppendix	C.							
Legend:												
	No exceedance of Action and Limit Level											
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow											
	Exceedance of Action Level recorded at monitoring station located upstream of the Project based on dominant tidal flow											
	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow											
	Exceedance of Limit Level recorded at monitoring station located upstream of the Project based on dominant tidal flow											
	Upstrear	n station	with resp	ect to the	e Project	during th	e respec	tive tide l	based on	dominar	nt tidal flo	W

Exceedances of Action and Limit Levels were recorded on two monitoring days. As exceedances occurred at stations located downstream of the Project which might be affected by the Project's activities, exceedance investigation was carried out.

As part of the investigation on downstream exceedance events, details of the Project's marine construction activities on these monitoring days were collected, as well as any observations during monitoring. The findings are summarised in **Table 4.9**.

According to the investigation findings, it was confirmed that DCM activities were operating normally with silt curtains deployed as additional measures. The silt curtains were maintained properly.

Nickel is a representative heavy metal that indicates the potential for release of contaminants from Contaminated Mud Pits (CMPs) due to the disturbance of marine sediment within CMP by DCM activities. Therefore, elevated nickel concentrations due to these activities should be associated with similar elevated SS levels. For the exceedances at IM8 to IM12 on 20 June 2017, it is noted that no SS exceedance was recorded in the same tide and the concentration (9 – 12 mg/L) was well below the Action and Limit Levels. The low SS levels at impact stations indicates that the active DCM works had limited or insignificant effect on downstream water quality. In addition, the occurrence of exceedances at upstream stations (IM11 and IM12) at the same time as the downstream stations indicates that the nickel source may originate from areas outside of the project boundary. Based on these findings, and given that DCM activities were confirmed to be operating normally with silt curtains deployed and properly maintained, the exceedances were considered not due to the Project and may be due to natural fluctuation or other sources not related to the Project.

For the exceedance at IM7 on 24 June 2017, the exceedance appeared to be an isolated case with no observable temporal and spatial trend to indicate any effect due to Project activities. Furthermore, no exceedance was recorded at other downstream monitoring stations, including IM8, which was similarly close to active DCM works during the same tide. Based on these findings, the exceedance was considered not due to the Project.

Conclusions

Based on the findings of the exceedance investigations, it is concluded that the exceedances were not due to the Project. Hence no SR was adversely affected by the Project. All required

actions under the Event and Action Plan were followed. Exceedances appeared to be due to natural fluctuation or other sources not related to the Project.

Nevertheless, recognising that the IM stations represent a 'first line of defence', the non-project related exceedances identified at IM stations were attended to as a precautionary measure. As part of the EM&A programme, the construction methods and mitigation measures for water quality will continue to be monitored and opportunities for further enhancement will continue to be explored and implemented where possible, to strive for better protection of water quality and the marine environment.

In the meantime, the contractors were reminded to implement and maintain all mitigation measures during weekly site inspection and regular environmental management meetings. These include maintaining mitigation measures for DCM works and sand blanket laying works properly as recommended in the Manual.

5 Waste Management

5.1 Monitoring Requirements

In accordance with the Manual, the waste generated from construction activities was audited once per week to determine if wastes are being managed in accordance with the Waste Management Plan (WMP) prepared for the Project, contract-specific WMP, and any statutory and contractual requirements. All aspects of waste management including waste generation, storage, transportation and disposal were assessed during the audits. The Action and Limit Levels of the construction waste are provided in **Table 5.1**.

Table 5.1: Action and Limit Levels for Construction Waste

Monitoring Stations	Action Level	Limit Level
Construction Area	When one valid documented complaint is received	Non-compliance of the WMP, contract-specific WMPs, any statutory and contractual
		requirements

5.2 Waste Management Status

Weekly monitoring on all works contracts were carried out by the ET to check and monitor the implementation of proper waste management practices during the construction phase.

Recommendations including provision and maintenance of spill kits and drip trays, as well as provision of proper storage area for general refuse, chemical and chemical waste. The contractors had taken actions to implement the recommended measures.

Based on the Contractor's information, about 576m³ of excavated materials were produced from the HDD launching site under P560(R) in the reporting period. The generated excavated materials were temporarily stored at the stockpiling area. The excavated material will be reused in the Project.

In addition, metal and paper were recycled during the reporting month. Around 127 tonnes of general refuse was disposed of to the WENT Landfill and 1600 litres of chemical waste was collected by licensed chemical waste collector in June 2017. Around 132m³ of Construction and Demolition (C&D) material generated from the DCM contract for site office establishment was sent to public fill.

No exceedances of the Action or Limit Levels were recorded in the reporting period.

6 Chinese White Dolphin Monitoring

6.1 CWD Monitoring Requirements

In accordance with the Manual, Chinese White Dolphin (CWD) monitoring by small vessel line-transect survey supplemented by land-based theodolite tracking and passive acoustic monitoring should be conducted during construction phase.

The small vessel line-transect survey as proposed in the Manual should be conducted at a frequency of two full survey per month while land-based theodolite tracking should be conducted at a frequency of one day per month per station during the construction phase. In addition to the land-based theodolite tracking required for impact monitoring as stipulated in the Manual, supplemental theodolite tracking have also been conducted during the implementation for the SkyPier HSF diversion and speed control in order to assist in monitoring the effectiveness of these measures, i.e. in total twice per month at the Sha Chau station and three times per month at the Lung Kwu Chau station.

The Action Level (AL) and Limit Level (LL) for CWD monitoring were formulated by the action response approach using the running quarterly dolphin encounter rates STG and ANI derived from the baseline monitoring data, as presented in the CWD Baseline Monitoring Report. The derived values of AL and LL for CWD monitoring were summarized in **Table 6.1**.

Table 6.1: Derived Values of Action Level (AL) and Limit Level (LL) for Chinese White Dolphin Monitoring

NEL, NWL,	AW, \	WL and	SWL	as a	Whole
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Action Level Running quarterly* STG < 1.86 & ANI < 9.35

Limit Level Two consecutive running quarterly^ (3-month) STG < 1.86 & ANI < 9.35

[Notes for Table 6.1 (referring to the baseline monitoring report):

*Action Level – running quarterly STG & ANI will be calculated from the three preceding survey months. For CWD monitoring for June 2017, data from 1 April 2017 to 30 June 2017 will be used to calculate the running quarterly encounter rates STG & ANI;

^Limit Level – two consecutive running quarters mean both the running quarterly encounter rates of the preceding month May 2017 (calculated by data from March 2017 to May 2017) and the running quarterly encounter rates of this month (calculated by data from April 2017 to June 2017).

AL and/or LL will be exceeded if both STG and ANI fall below the criteria.]

6.2 CWD Monitoring Transects and Stations

6.2.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys were conducted along the transects covering Northeast Lantau (NEL), Northwest Lantau (NWL), Airport West (AW), West Lantau (WL) and Southwest Lantau (SWL) areas as proposed in the Manual, which are consistent with the Agriculture, Fisheries and Conservation Department (AFCD) long-term monitoring programme (except the addition of AW). The AW transect has not been previously surveyed in the AFCD programme due to the restrictions of HKIA Approach Area, nevertheless, this transect was established during the EIA of the 3RS Project and refined in the Manual with the aim to collect project specific baseline information within the HKIA Approach Area to fill the data gap that was not covered by the AFCD programme. This provided a larger sample size for estimating the density, abundance and patterns of movements in the broader study area of the project.

The planned vessel survey transect lines follow the waypoints set for construction phase monitoring as proposed in the Manual and depicted in **Figure 6.1** with the waypoint coordinates of all transect lines given in **Table 6.2**, which are subject to on-site refinement based on the actual survey conditions and constraints.

Table 6.2: Coordinates of Transect Lines in NEL, NWL, AW, WL and SWL Survey Areas

Waypoint	Easting	Northing	Waypoint	Easting	Northing
		NE	L		
1S	813525	820900	6N	818568	824433
1N	813525	824657	7S	819532	821420
2S	814556	818449	7N	819532	824209
2N	814559	824768	8S	820451	822125
3S	815542	818807	8N	820451	823671
3N	815542	824882	9S	821504	822371
4S	816506	819480	9N	821504	823761
4N	816506	824859	10S	822513	823268
5S	817537	820220	10N	822513	824321
5N	817537	824613	11S	823477	823402
6S	818568	820735	11N	823477	824613
		NV	VL		
1S	804671	814577	5S	808504	821735
1N	804671	831404	5N	808504	828602
2Sb	805475	815457	6S	809490	822075
2Nb	805476	818571	6N	809490	825352
2Sa	805476	820770	7S	810499	822323
2Na	805476	830562	7N	810499	824613
3S	806464	821033	88	811508	821839
3N	806464	829598	8N	811508	824254
48	807518	821395	9S	812516	821356
4N	807518	829230	9N	812516	824254
		A	N		
1W	804733	818205	2W	805045	816912
1E	806708	818017	2E	805960	816633
		W	'L		
1W	800600	805450	7W	800400	811450
1E	801760	805450	7E	802400	811450
2W	800300	806450	8W	800800	812450
2E	801750	806450	8E	802900	812450
3W	799600	807450	9W	801500	813550
3E	801500	807450	9E	803120	813550
4W	799400	808450	10W	801880	814500
4E	801430	808450	10E	803700	814500
5W	799500	809450	11W	802860	815500
5E	801300	809450	12S/11E	803750	815500
6W	799800	810450	12N	803750	818500
6E	801400	810450			
		SV	VL		
1S	802494	803961	6S	807467	801137
1N	802494	806174	6N	807467	808458
2S	803489	803280	78	808553	800329

Waypoint	Easting	Northing	Waypoint	Easting	Northing
2N	803489	806720	7N	808553	807377
3S	804484	802509	8S	809547	800338
3N	804484	807048	8N	809547	807396
4S	805478	802105	9S	810542	800423
4N	805478	807556	9N	810542	807462
5S	806473	801250	108	811446	801335
5N	806473	808458	10N	811446	809436

6.2.2 Land-based Theodolite Tracking

Land-based theodolite tracking stations were set up at two locations, one facing east/south/west on the southern slopes of Sha Chau (SC), and the other facing north/northeast/northwest at Lung Kwu Chau (LKC). The stations (D and E) are depicted in **Figure 6.2** and shown in **Table 6.3** with position coordinates, height of station and approximate distance of consistent theodolite tracking capabilities for CWD.

Table 6.3: Land-based Survey Station Details

Stations	Location	Geographical Coordinates	Station Height (m)	Approximate Tracking Distance (km)
D	Sha Chau (SC)	22° 20' 43.5" N 113° 53' 24.66" E	45.66	2
Е	Lung Kwu Chau (LKC)	22° 22′ 44.83″ N 113° 53′ 0.2″ E	70.40	3

6.3 CWD Monitoring Methodology

6.3.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys provided data for density and abundance estimation and other assessments using distance-sampling methodologies, specifically, line-transect methods.

The surveys involved small vessel line-transect data collection and have been designed to be similar to, and consistent with, previous surveys for the AFCD for their long-term monitoring of small cetaceans in Hong Kong. The survey was designed to provide systematic, quantitative measurements of density, abundance and habitat use.

As mentioned in **Section 6.2.1**, the transects covered NEL, NWL covering the AW, WL and SWL areas as proposed in the Manual and are consistent with the AFCD long-term monitoring programme (except AW). There are two types of transect lines:

- Primary transect lines: the parallel and zigzag transect lines as shown in Figure 6.1; and
- Secondary transect lines: transect lines connecting between the primary transect lines and crossing islands.

All data collected on both primary and secondary transect lines were used for analysis of sighting distribution, group size, activities including association with fishing boat, and mother-calf pair. Only on-effort data collected under conditions of Beaufort 0-3 and visibility of approximately 1200 m or beyond were used for analysis of the CWD encounter rates.

A 15-20 m vessel with a flying bridge observation platform about 4 to 5 m above water level and unobstructed forward view, and a team of three to four observers were deployed to undertake the surveys. Two observers were on search effort at all times when following the transect lines with

a constant speed of 7 to 8 knots (i.e. 13 to 15 km per hour), one using 7X handheld binoculars and the other using unaided eyes and recording data.

During on-effort survey periods, the survey team recorded effort data including time, position (waypoints), weather conditions (Beaufort sea state and visibility) and distance travelled in each series with assistance of a handheld GPS device. The GPS device also continuously and automatically logged data including time, position (latitude and longitude) and vessel speed throughout the entire survey.

When CWDs were seen, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens), then followed until they left the study area or were lost. At that point, the boat returned (off effort) to the next survey line and began to survey on effort again.

Focal follows of dolphins were conducted where practicable (i.e. when individual dolphins or small stable groups of dolphins with at least one member that could be readily identifiable with unaided eyes during observations and weather conditions are favourable). These involved the boat following (at an appropriate distance to minimize disturbance) an identifiable individual dolphin for an extended period of time, and collecting detailed data on its location, behaviour, response to vessels, and associates.

6.3.2 Photo Identification

CWDs can be identified by their unique features like presence of scratches, nick marks, cuts, wounds, deformities of their dorsal fin and distinguished colouration and spotting patterns.

When CWDs were observed, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens). The survey team attempted to photo both sides of every single dolphin in the group as the colouration and spotting pattern on both sides may not be identical. The photos were taken at the highest available resolution and stored on Compact Flash memory cards for transferring into a computer.

All photos taken were initially examined to sort out those containing potentially identifiable individuals. These sorted-out images would then be examined in detail and compared to the CWD photo-identification catalogue established for 3RS during the baseline monitoring stage.

6.3.3 Land-based Theodolite Tracking

Land-based monitoring obtains fine-scale information on the time of day and movement patterns of the CWDs. A digital theodolite (Sokkia/Sokkisha Model DT5 or similar equipment) with 30-power magnification and 5-s precision was used to obtain the vertical and horizontal angle of each dolphin and vessel position. Angles were converted to geographic coordinates (latitude and longitude) and data were recorded using *Pythagoras* software, Version 1.2. This method delivers precise positions of multiple spatially distant targets in a short period of time. The technique is fully non-invasive, and allows for time and cost-effective descriptions of dolphin habitat use patterns at all times of daylight.

Three surveyors (one theodolite operator, one computer operator, and one observer) were involved in each survey. Observers searched for dolphins using unaided eyes and handheld binoculars (7X50). Theodolite tracking sessions were initiated whenever an individual CWD or group of CWDs was located. Where possible, a distinguishable individual was selected, based on colouration, within the group. The focal individual was then continuously tracked via the theodolite, with a position recorded each time the dolphin surfaced. In case an individual could

not be positively distinguished from other members, the group was tracked by recording positions based on a central point within the group whenever the CWD surfaced. Tracking continued until animals were lost from view; moved beyond the range of reliable visibility (>1-3 km, depending on station height); or environmental conditions obstructed visibility (e.g., intense haze, Beaufort sea state >4, or sunset), at which time the research effort was terminated. In addition to the tracking of CWD, all vessels that moved within 2-3 km of the station were tracked, with effort made to obtain at least two positions for each vessel.

Theodolite tracking included focal follows of CWD groups and vessels. Priority was given to tracking individual or groups of CWD. The survey team also attempted to track all vessels moving within 1 km of the focal CWD.

6.4 Monitoring Results and Observations

6.4.1 Small Vessel Line-transect Survey

Survey Effort

Within this reporting month, two complete sets of small vessel line-transect surveys were conducted on the 7th, 8th, 9th, 12th, 15th, 22nd, 23rd and 28th June 2017, covering all transects in NEL, NWL, AW, WL and SWL survey areas for twice.

A total of around 439.92 km of survey effort was collected from these surveys, with around 86.58% of the total survey effort being conducted under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of the survey effort are given in **Appendix C**.

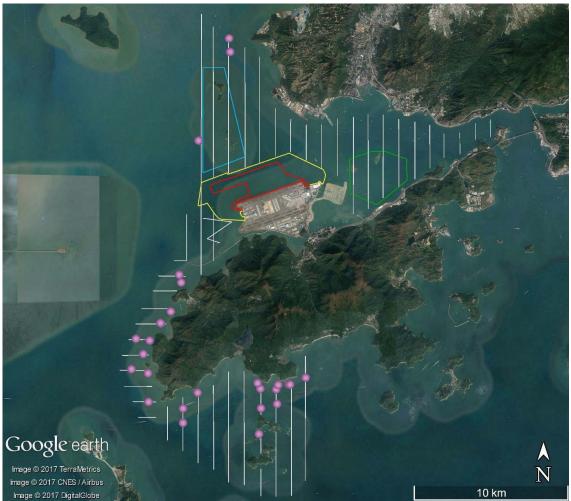
Sighting Distribution

In June 2017, 27 groups of CWDs with 79 individuals were sighted. Amongst these sightings, 24 groups of CWDs with 71 animals were recorded during on-effort search under favourable weather conditions (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of cetacean sightings are presented in **Appendix C**.

Distribution of all CWD sightings recorded in June 2017 is illustrated in **Figure 6.3**. In June 2017, three sightings of CWDs were recorded in NWL, at waters north to Lung Kwu Chau and west to Sha Chau. In WL, CWDs were sighted along the coastal waters from Tai O to Fan Lau. In SWL, CWD sightings were mainly recorded around Fan Lau Tung Wan and the waters between Lantau Island and Soko Islands. No sightings of CWDs were recorded in NEL and also the vicinity of or within the 3RS land-formation footprint.

Figure 6.3: Sightings Distribution of Chinese White Dolphins

[Pink circle: Sighting locations of CWD, White line: Vessel survey transects, Blue polygon: Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP), Green polygon: Brothers Marine Park (BMP) Red polygon: 3RS land-formation footprint, Yellow line: 3RS temporary works area boundary]



Remarks: Please note that there are 27 pink circles on the map indicating the sighting locations of CWD. Some of them were located very close to each other and therefore appear overlapped on the map.

Encounter Rate

Two types of dolphin encounter rates were calculated based on the data from June 2017. They included the number of dolphin sightings per 100 km survey effort (STG) and total number of dolphins per 100 km survey effort (ANI) in the whole survey area (i.e. NEL, NWL, AW, WL and SWL). In the calculation of dolphin encounter rates, only survey data collected under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility) were used. The formulae used for calculation of the encounter rates are shown below:

Encounter Rate by Number of Dolphin Sightings (STG)

$$STG = \frac{Total\ No.\ of\ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

Encounter Rate by Number of Dolphins (ANI)

$$ANI = \frac{Total\ No.\ of\ Dolphins\ from\ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

(Notes: Only data collected under Beaufort 3 or below condition was used)

In June 2017, a total of around 380.87 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 24 on-effort sightings with a total number of 71 dolphins from on-effort sightings were obtained under such condition. Calculation of the encounter rates in June 2017 are shown in **Appendix C**.

For the running quarter of the reporting month (i.e., from April 2017 to June 2017), a total of around 1190.10 km of survey effort were conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 53 on-effort sightings and a total number of 210 dolphins from on-effort sightings were obtained under such condition. Calculation of the running quarterly encounter rates are shown in **Appendix C**.

The STG and ANI of CWD in the whole survey area (i.e. NEL, NWL, AW, WL and SWL) during the month of June 2017 and during the running quarter are presented in **Table 6.4** below and compared with the Action Level. The running quarterly encounter rates STG and ANI did not trigger the Action Level (i.e., remained above the Action Level).

Table 6.4: Comparison of CWD Encounter Rates of the Whole Survey Area with Action Levels

	Encounter Rate (STG)	Encounter Rate (ANI)
June 2017	6.30	18.64
Running Quarter from April 2017 to June 2017*	4.45	17.65
Action Level	Running quarterly* < 1.86	Running quarterly* < 9.35

^{*}Running quarterly encounter rates STG & ANI were calculated from data collected in the reporting month and the two preceding survey months, i.e. the data from April 2017 to June 2017, containing six sets of transect surveys for all monitoring areas.

Group Size

In June 2017, 27 groups of CWDs with 79 individuals were sighted, and the average group size of CWDs was 2.93 individuals per group. The number of small-sized (i.e. 1-2 individuals) CWD groups was 15 while that of medium-sized (i.e. 3-9 individuals) CWD groups was 12 in June 2017. No large CWD groups (i.e. 10 or more individuals) were recorded in this reporting month.

Activities and Association with Fishing Boats

Eight out of 27 sightings of CWDs were recorded engaging in feeding activities in June 2017, whilst none of these sightings was associated with operating fishing boat.

Mother-calf Pair

In June 2017, eight sightings of CWDs were recorded with the presence of mother-and-calf, mother-and-unspotted juvenile or mother-and-spotted juvenile pairs. Six out of these eight sightings were recorded in WL while the remaining two were recorded in NWL and SWL respectively.

6.4.2 Photo Identification

In June 2017, a total number of 29 different CWD individuals were identified for totally 34 times. A summary of photo identification works is presented in **Table 6.5**. Representative photos of these individuals are given in **Appendix C**.

Table 6.5: Summary of Photo Identification

Individual ID	Date of Sighting (dd/mm/yyyy)	Sighting Group No.	Area	Individual ID	Date of Sighting (dd/mm/yyyy)	Sighting Group No.	Area
NLMM006	08-Jun-17	1	NWL	WLMM027	22-Jun-17	4	SWL
NLMM013	08-Jun-17	1	NWL	WLMM040	09-Jun-17	1	WL
SLMM011	28-Jun-17	5	WL	WLMM043	09-Jun-17	1	WL
SLMM014	22-Jun-17	2	SWL	WLMM052	28-Jun-17	2	WL
		3	SWL	WLMM063	07-Jun-17	2	SWL
		6	SWL	WLMM076	22-Jun-17	1	SWL
		7	SWL	WLMM078	22-Jun-17	1	SWL
SLMM027	07-Jun-17	2	SWL	WLMM086	09-Jun-17	1	WL
SLMM031	07-Jun-17	1	SWL			3	WL
SLMM036	07-Jun-17	3	SWL	WLMM090	09-Jun-17	1	WL
SLMM040	22-Jun-17	1	SWL	WLMM091	28-Jun-17	3	WL
SLMM052	07-Jun-17	2	SWL	WLMM092	28-Jun-17	3	WL
SLMM057	22-Jun-17	1	SWL	WLMM093	28-Jun-17	6	WL
SLMM058	22-Jun-17	5	SWL	WLMM094	28-Jun-17	6	WL
WLMM004	07-Jun-17	2	SWL	WLMM095	28-Jun-17	6	WL
WLMM008	22-Jun-17	1	SWL	WLMM096	28-Jun-17	8	WL
WLMM009	09-Jun-17	4	SWL				
	28-Jun-17	8	WL				

6.4.3 Land-based Theodolite Tracking

Survey Effort

Land-based theodolite tracking surveys were conducted at LKC on 22nd, 26th and 29th June 2017 and at SC on 23rd and 27th June 2017, with a total of five days of land-based theodolite tracking survey effort accomplished in this reporting month. In total, nine CWD groups were tracked at LKC station during the surveys. Information of survey effort and CWD groups sighted during these land-based theodolite tracking surveys are presented in **Table 6.6**. Details of the survey effort and CWD groups tracked are presented in **Appendix C**. The first sighting locations of CWD groups tracked at LKC station during land-based theodolite tracking surveys in June 2017 were depicted in **Figure 6.4**. No CWD group was sighted from SC station in this reporting month.

Table 6.6: Summary of Survey Effort and CWD Group of Land-based Theodolite Tracking

Land-based Station	No. of Survey Sessions	Survey Effort (hh:mm)	No. of CWD Groups Sighted	CWD Group Sighting per Survey Hour
Lung Kwu Chau	3	18:03	9	0.50
Sha Chau	2	12:00	0	0
TOTAL	5	30:03	9	0.30

Figure 6.4: Plots of First Sightings of All CWD Groups obtained from Land-based Stations [Green triangle: LKC station; Green square: CWD group off LKC; Blue line: SCLKCMP boundary]



6.5 Progress Update on Passive Acoustic Monitoring

Underwater acoustic monitoring using Passive Acoustic Monitoring (PAM) should be undertaken during land formation related construction works. The Ecological Acoustic Recorder (EAR) deployment is generally for 4-6 weeks prior to data retrieval for analysis. In this reporting month, the EAR has remained underwater since re-deployment on 13 May 2017 and is currently positioned at south of Sha Chau Island with 20% duty cycle (**Figure 6.5**). Acoustic data is reviewed to give an indication of CWDs occurrence patterns and to obtain anthropogenic noise information simultaneously. Analysis (by a specialized team of acousticians) involved manually browsing through every acoustic recording and logging the occurrence of dolphin signals. All data will be re-played by computer as well as listened to by human ears for accurate assessment of dolphin group presence. As the period of data collection and analysis takes more than two months, PAM results could not be reported in monthly intervals.

6.6 Site Audit for CWD-related Mitigation Measures

During the reporting period, silt curtains were in place by the contractors for sand blanket laying works, in which dolphin observers were deployed by each contractor in accordance with the Marine Mammal Watching Plan (MMWP). Teams of at least two dolphin observers were deployed at 10 to 13 dolphin observation stations by the contractors for continuous monitoring of the Dolphin Exclusion Zone (DEZ) by all contractors for DCM works in accordance with the DEZ Plan. Trainings for the proposed dolphin observers on the implementation of MMWP and DEZ monitoring were provided by the ET prior to the aforementioned works, with a cumulative total of 408 individuals being trained and the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains or the DEZs in this reporting month. These contractors' records were also audited by the ET during site inspection.

Audits of acoustic decoupling for construction vessels were carried out during weekly site inspection and the observations are summarised in **Section 7.1**. Audits of SkyPier high speed ferries route diversion and speed control and construction vessel management are presented in **Section 7.2** and **Section 7.3** respectively.

6.7 Timing of Reporting CWD Monitoring Results

Detailed analysis of CWD monitoring results collected by small vessel line-transect survey will be provided in future quarterly reports. Detailed analysis of CWD monitoring results collected by land-based theodolite tracking and PAM will be provided in future annual reports after a larger sample size of data has been collected.

6.8 Summary of CWD Monitoring

Monitoring of CWD was conducted with two complete sets of small vessel line-transect surveys and five days of land-based theodolite tracking survey effort as scheduled. The running quarterly encounter rates STG and ANI in the reporting month did not trigger the Action Level for CWD monitoring.

7 Environmental Site Inspection and Audit

7.1 Environmental Site Inspection

Weekly site inspections of the construction works for the advanced works contract, DCM contracts and reclamation contracts were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. The weekly site inspection schedule of the construction works is provided in **Appendix B**. Bi-weekly site inspections were also conducted by the IEC. Observations have been recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

The key observations from site inspection and associated recommendations were related to provision and maintenance of drip trays, as well as implementation of noise mitigation and dust suppression measures. In addition, recommendations were also provided during site inspection on barges, which included display of valid environmental related permits and licenses on barges; provision and maintenance of drip trays and spill kits; provision of proper storage area for general refuse, chemicals, and chemical waste; implementation of proper wastewater treatment, DEZ monitoring, dust suppression measures, acoustic decoupling measures, and spill and runoff preventive measures; as well as proper installation and maintenance of silt curtains.

A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix A**.

7.2 Audit of Route Diversion and Speed Control of the SkyPier High Speed Ferries

The Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan) was submitted to the Advisory Council on the Environment (ACE) for comment and subsequently submitted to and approved by EPD in November 2015 under EP Condition 2.10. The approved SkyPier Plan is available on the dedicated website of the Project. In the SkyPier Plan, AAHK has committed to implementing the mitigation measure of requiring high speed ferries (HSFs) of SkyPier travelling between HKIA and Zhuhai / Macau to start diverting the route with associated speed control across the area, i.e. Speed Control Zone (SCZ), with high CWD abundance. The route diversion and speed restriction at the SCZ have been implemented since 28 December 2015.

Key audit findings for the SkyPier HSFs travelling to/from Zhuhai and Macau against the requirements of the SkyPier Plan during the reporting period are summarized in **Table 7.1**. The daily movements of all SkyPier HSFs in June 2017 (i.e., 56 to 95 daily movements) were within the maximum daily cap of 125 daily movements. There was fewer ferry movement on 12 June 2017 (56 movements) due to typhoon. Status of compliance with the annual daily average of 99 movements will be further reviewed in the annual EM&A Report.

In total, 834 ferry movements between HKIA SkyPier and Zhuhai / Macau were recorded in June 2017 and the data are presented in **Appendix G**. The time spent by the SkyPier HSFs travelling through the SCZ in June 2017 were presented in **Figure 7-1**. It will take 9.6 minutes to travel through the SCZ when the SkyPier HSFs adopt the maximum allowable speed of 15 knots within

the SCZ. **Figure 7-1** shows that all of the SkyPier HSFs spent more than 9.6 minutes to travel through the SCZ.

Duration of Ferry Movements through SCZ for JUN-2017 20 SCZ (minutes) 18 16 14 the 12 through 10 traveled Time 0 1-JUN-2017 2-JUN-2017 4-JUN-2017 5-JUN-2017 9-JUN-2017 10-JUN-2017 11-JUN-2017 12-JUN-2017 13-JUN-2017 14-JUN-2017 15-JUN-2017 16-JUN-2017 17-JUN-2017 18-JUN-2017 19-JUN-2017 20-JUN-2017 21-JUN-2017 22-JUN-2017 23-JUN-2017 24-JUN-2017 25-JUN-2017 26-JUN-2017 27-JUN-2017 28-JUN-2017 29-JUN-2017 30-JUN-2017

Figure 7-1 Duration of the SkyPier HSFs travelling through the SCZ for June 2017

Note: Data above the red line indicated that the time spent by the SkyPier HSFs travelling through the SCZ is more than 9.6 minutes, which is in compliance with the SkyPier Plan.

One ferry was recorded with minor deviation from the diverted route on 17 June 2017. Notice was sent to the ferry operator (FO) and the case is under investigation by ET. The investigation result will be presented in the next monthly EM&A report

The cases of minor deviation from the diverted route recorded on 5, 13, 22 and 24 May 2017 were followed up after receiving information from the FO. For the cases on 5, 13 and 22 May 2017, ET's investigation found that the vessel captain had to give way to a vessel to ensure safety. After that, the HSF had returned to the normal route following the SkyPier Plan. For the remaining minor route deviation case on 24 May 2017, the vessel captain had to avoid collision with a floating object in front of the vessel to ensure safety, which caused the minor route deviation. After that, the HSF had returned to the normal route immediately.

Three meetings were held with FO representatives on 5, 7 and 15 June 2017 to review and discuss the deviation cases happened in the past few months as well as to share experience and recommendations to further strengthen the implementation of SkyPier Plan.

Table 7.1: Summary of Key Audit Findings against the SkyPier Plan

Requirements in the SkyPier Plan	1 June to 30 June 2017
Total number of ferry movements recorded and audited	834
Use diverted route and enter / leave SCZ through Gate Access Points	1 deviation, which is under investigation
Speed control in speed control zone	The average speeds taken within the SCZ of all HSFs were within 15 knots (9.9 knots to 14.0 knots), which complied with the SkyPier Plan. The time used by HSFs to travel through SCZ is presented in Figure 7-1 .
Daily Cap (including all SkyPier HSFs)	56 to 95 daily movements (within the maximum daily cap - 125 daily movements).

7.3 Audit of Construction and Associated Vessels

The updated Marine Travel Routes and Management Plan for Construction and Associated Vessel (MTRMP-CAV) was submitted and approved in November 2016 by EPD under EP Condition 2.9. The approved Plan is available on the dedicated website of the Project.

ET carried out the following actions during the reporting period:

- Three skipper training sessions were held for contractors' concerned skippers of relevant
 construction vessels to familiarize them with the predefined routes; general education on
 local cetaceans; guidelines for avoiding adverse water quality impact; the required
 environmental practices / measures while operating construction and associated vessels
 under the Project; and guidelines for operating vessels safely in the presence of CWDs.
 The list of all trained skippers was properly recorded and maintained by ET.
- Six skipper training sessions were held by contractor's Environmental Officer. Competency test was subsequently conducted with the trained skippers by ET.
- 16 skippers were trained by ET and 12 skippers were trained by contractor's Environmental Officer in June 2017. In total, 687 skippers were trained from August 2016 to June 2017.
- The upgraded Marine Surveillance System (MSS) was launched in March 2017. The MSS
 automatically recorded deviation cases such as speeding, entering no entry zone, not
 traveling through the designated gate. ET conducted checking to ensure the MSS records
 deviation cases accurately.
- Deviations such as speeding in the works area, entering from non-designated gates and entering no-entry zones were identified. All the concerned contractors were reminded to comply with the requirements of the MTRMP-CAV during the bi-weekly MTCC audit.
- 3-month rolling programmes (one month record and two months forecast) for construction vessel activities were received from the contractors in order to help maintain the number of construction and associated vessels on site to a practicable minimal level.

The IEC of the Project had performed audit on the compliance of the requirements as part of the EM&A programme.

7.4 Implementation of Dolphin Exclusion Zone

The DEZ Plan was submitted in accordance with EP Condition 3.1 (v) requirement and Section 10.3 of the Updated EM&A Manual, and approved in April 2016 by EPD. The 24-hour DEZs with a 250m radius for marine works were established and implemented by the contractors for DCM works in accordance with the DEZ Plan.

During the reporting period, ET has been notified that no dolphins were sighted within the DEZ by the contractors. ET has checked the relevant records to audit the implementation of DEZ and followed up with contractors on improper practices in DEZ monitoring identified during site inspection.

7.5 Ecological Monitoring

In accordance with the Manual, ecological monitoring shall be undertaken monthly at the Horizontal Directional Drilling (HDD) daylighting location on Sheung Sha Chau Island during the HDD construction works period from August to March. Since the construction works on Sheung Sha Chau is suspended during the ardeid's breeding season between April to July, no ecological monitoring was carried out in this reporting period.

7.6 Status of Submissions under Environmental Permits

The current status of submissions under the EP up to the reporting period is presented in **Table 7.2**.

Table 7.2: Status of Submissions under Environmental Permit

EP Condition	Submission	Status
2.1	Complaint Management Plan	
2.4	Management Organizations	
2.5	Construction Works Schedule and Location Plans	
2.7	Marine Park Proposal	
2.8	Marine Ecology Conservation Plan	
2.9	Marine Travel Routes and Management Plan for Construction and Associated Vessels	
2.10	Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier	Accepted / approved
2.11	Marine Mammal Watching Plan	by EPD
2.12	Coral Translocation Plan	
2.13	Fisheries Management Plan	
2.14	Egretry Survey Plan	_
2.15	Silt Curtain Deployment Plan	_
2.16	Spill Response Plan	
2.17	Detailed Plan on Deep Cement Mixing	
2.19	Waste Management Plan	
3.1	Updated EM&A Manual	
3.4	Baseline Monitoring Reports	

7.7 Compliance with Other Statutory Environmental Requirements

During the reporting period, environmental related licenses and permits required for the construction activities were checked. No non-compliance with environmental statutory requirements was recorded. The environmental licenses and permits which are valid in the reporting month are presented in **Appendix E**.

7.8 Analysis and Interpretation of Complaints, Notification of Summons and Status of Prosecutions

7.8.1 Complaints

An environment-related complaint was received on 22 May 2017 regarding alleged cement discharges from a construction vessel during reclamation activities of the Project. Investigation was conducted by the ET in accordance with the Complaint Management Plan of the Project. The anonymous complainant did not provide any information on the case (e.g. date/time of the observation) or any details of the vessel (e.g. name, description or characteristics of the vessel, etc.). The ET recognized the concerned vessel as a DCM barge. Review of the water quality monitoring results in April and May 2017 indicated that there were no exceedances of Action or Limit levels for total alkalinity in those two months, hence no indications suggesting significant discharge of cement into the marine environment. Also, there were no discharge out of the site boundary of the Project observed during the water quality monitoring events. Nevertheless, the ET has reminded and reiterated to the DCM contractors to ensure proper implementation of the relevant precautionary/ mitigation measures including proper deployment of primary silt curtains installed on their DCM barges and maintaining good housekeeping to avoid spillage/leakage of

untreated wastewater/materials into the surrounding marine environment. The ET observed that the relevant precautionary/ mitigation measures had been carried out by the DCM contractors. The ET will continue to monitor the implementation and effectiveness of the relevant precautionary/ mitigation measures during the regular and ad hoc site inspections.

7.8.2 Notifications of Summons or Status of Prosecution

Summons were received in June 2017 alleging use of powered mechanical equipment outside the permitted hours for the aviation fuel pipeline diversion works in December 2016.

7.8.3 Cumulative Statistics

Cumulative statistics on complaints, notifications of summons and status of prosecutions are summarized in **Appendix F**.

8 Future Key Issues and Other EIA & EM&A Issues

8.1 Construction Programme for the Coming Reporting Period

Key activities anticipated in the next reporting period for the Project will include the following:

Advanced Works:

Contract P560 (R) Aviation Fuel Pipeline Diversion Works

- HDD works: and
- Stockpiling of excavated materials from HDD operation.

DCM Works:

Contract 3201 to 3205 DCM Works

- Laying of sand blanket; and
- DCM trials and works.

Reclamation Works:

Contract 3206 Main Reclamation Works

- · Site office establishment; and
- · Laying of sand blanket.

Terminal 2 Expansion Works:

Contract 3501 Antenna Farm and Sewage Pumping Station

Site formation works.

8.2 Key Environmental Issues for the Coming Reporting Period

The key environmental issues for the Project in the coming reporting period expected to be associated with the construction activities include:

- Generation of dust from construction works and stockpiles;
- Noise from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Water quality from laying of sand blankets and DCM works;
- DEZ monitoring for DCM works and implementation of MMWP for silt curtain deployment by the contractors' dolphin observers;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site; and

• Acoustic decoupling measures for equipment on marine vessels.

The implementation of required mitigation measures by the contractors will be monitored by the ET.

8.3 Monitoring Schedule for the Coming Reporting Period

A tentative schedule of the planned environmental monitoring work in the next reporting period is provided in **Appendix B**.

9 Conclusion and Recommendation

The key activities of the Project carried out in the reporting period included DCM works and trials, laying of sand blanket, site office establishment and HDD works.

All the monitoring works for construction dust, construction noise, water quality, construction waste and CWD were conducted during the reporting period in accordance with the Manual.

No exceedance of the Action or Limit Levels in relation to construction dust, construction noise, construction waste and CWD monitoring was recorded in the reporting month.

The water quality monitoring results for total alkalinity and SS obtained during the reporting period did not trigger their corresponding Action and Limit Levels stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme if being exceeded. For DO, turbidity, chromium, and nickel, some of the testing results exceeded the relevant Action or Limit Levels, and the corresponding investigations were conducted accordingly. The investigation findings concluded that the exceedances were not due to the Project.

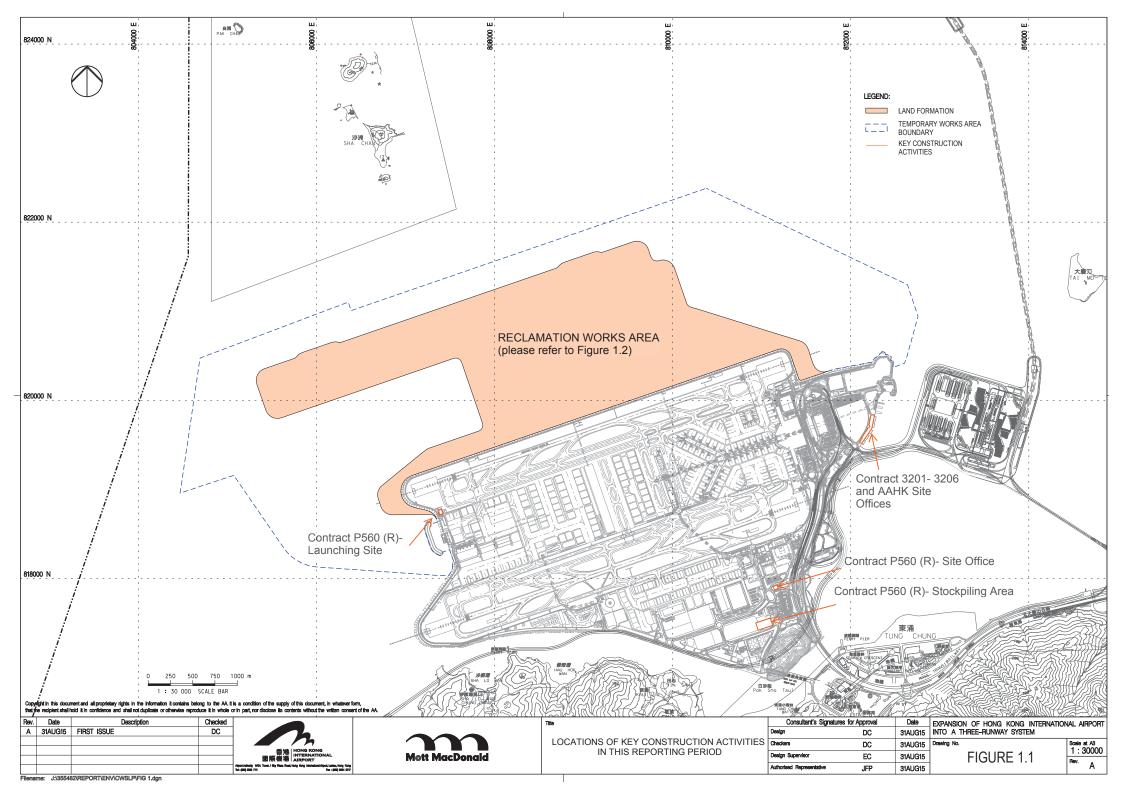
Weekly site inspections of the construction works were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. Bi-weekly site inspections were also conducted by the IEC. Observations have been recorded in the site inspection checklists, including the observations on the conditions of silt curtains, which have been provided to the contractors together with the appropriate follow-up actions where necessary.

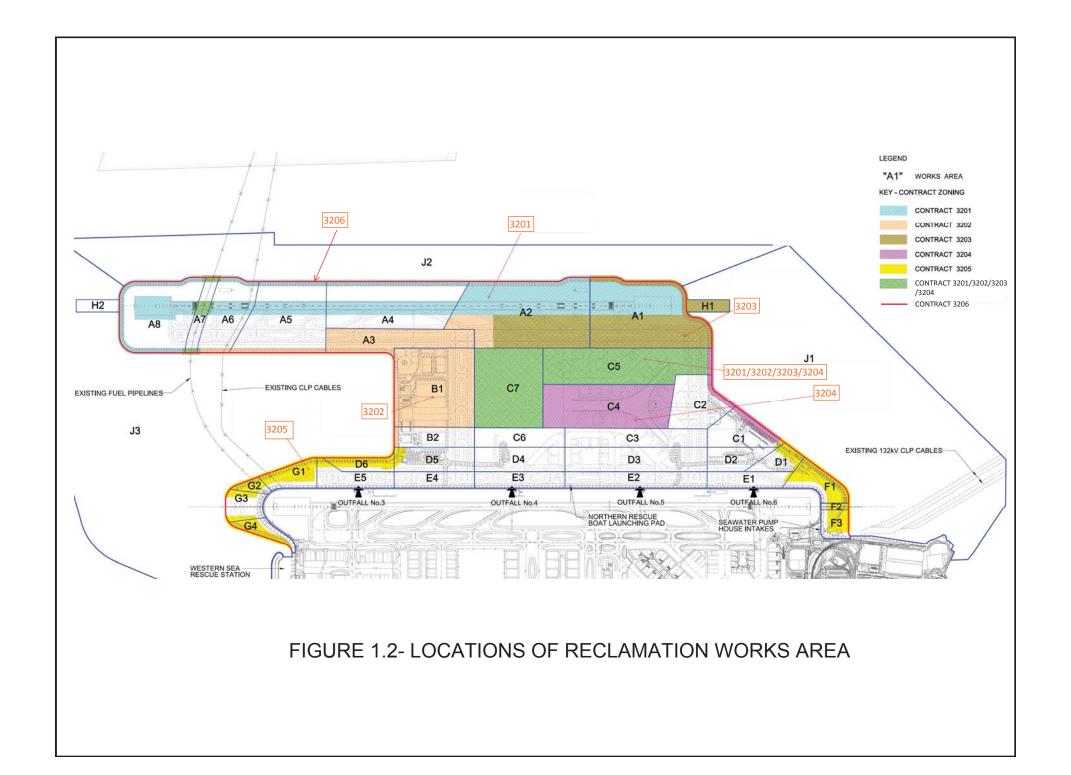
On the implementation of Marine Mammal Watching Plan, silt curtains were in place by the contractors for laying of sand blanket and dolphin observers were deployed in accordance with the plan. On the implementation of DEZ Plan, dolphin observers at 10 to 13 dolphin observation stations were deployed for continuous monitoring of the DEZ by all contractors for DCM works in accordance with the DEZ Plan. Trainings for the proposed dolphin observers were provided by the ET prior to the aforementioned works, with the training records kept by the ET. From the contractors' MMWP observation records and DEZ monitoring records, no dolphin or other marine mammals were observed within or around the silt curtains, and no dolphins were sighted within the DEZ. These contractors' records were checked by the ET during site inspection. Audits of acoustic decoupling for construction vessels were also carried out by the ET.

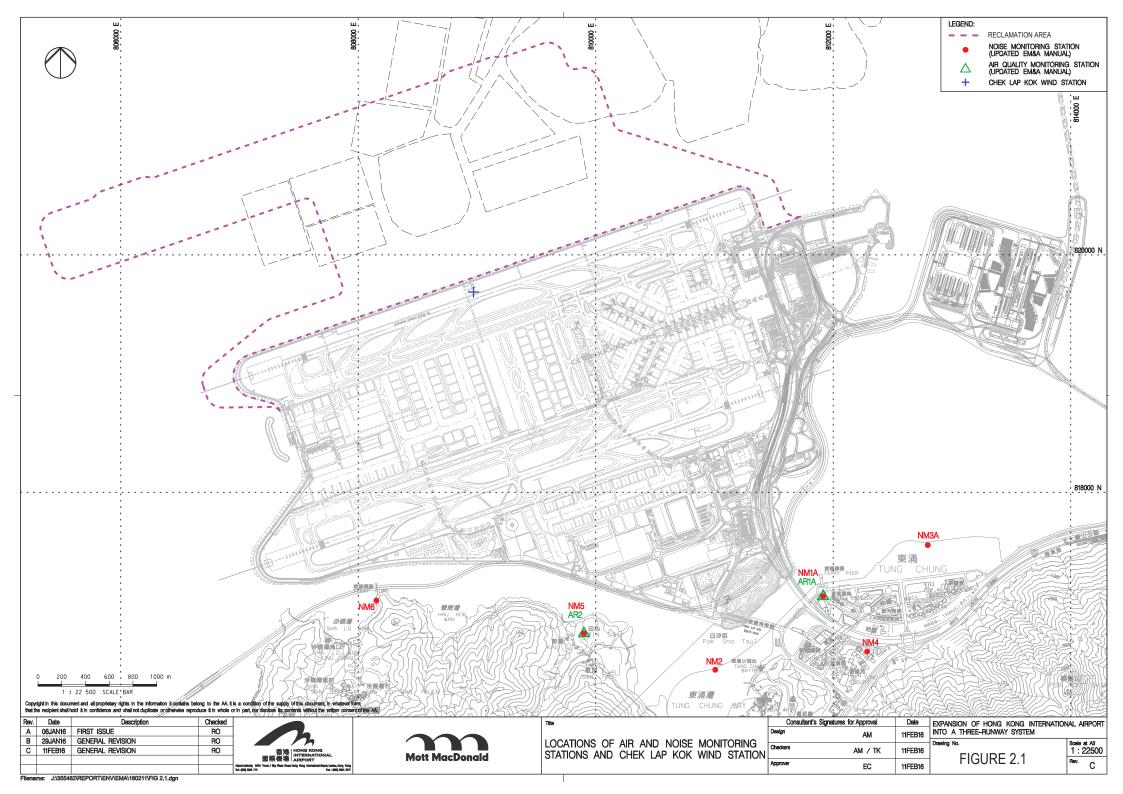
On the implementation of the Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan), the daily movements of all SkyPier HSFs in June 2017 were in the range of 56 to 95 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 834 HSF movements under the SkyPier Plan were recorded in the reporting period. All HSFs had travelled through the SCZ with average speeds under 15 knots (9.9 to 14.0 knots), which were in compliance with the SkyPier Plan. One ferry movement with minor deviation from the diverted route is under investigation by ET. The investigation result will be presented in the next monthly EM&A report. In summary, the ET and IEC have audited the HSF movements against the SkyPier Plan and conducted follow up investigation or actions accordingly. Three meetings were held with FO representatives in June 2017 to review and discuss the deviation cases as well as to share experience and recommendations to further strengthen the implementation of SkyPier Plan.

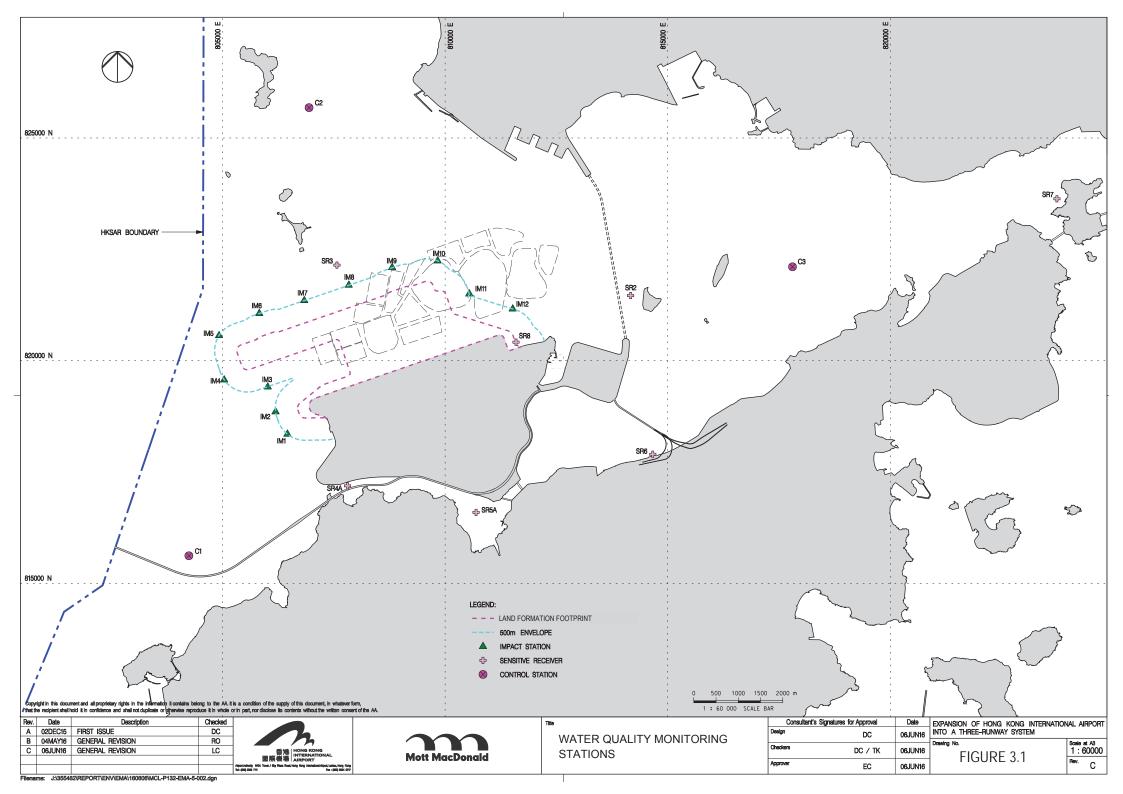
On the implementation of the MTRMP-CAV, the upgraded MSS was launched in March 2017. The MSS automatically recorded the deviation case such as speeding, entering no entry zone, not traveling through the designated gate. ET conducted checking to ensure the MSS records all deviation cases accurately. Training has been provided for the concerned skippers to facilitate them in familiarising with the requirements of the MTRMP-CAV. ET reminded contractors that all vessels shall avoid entering the no-entry zone, in particular the Brothers Marine Park which has been designated since 30 December 2016. 3-month rolling programmes for construction vessel activities were also received from contractors.

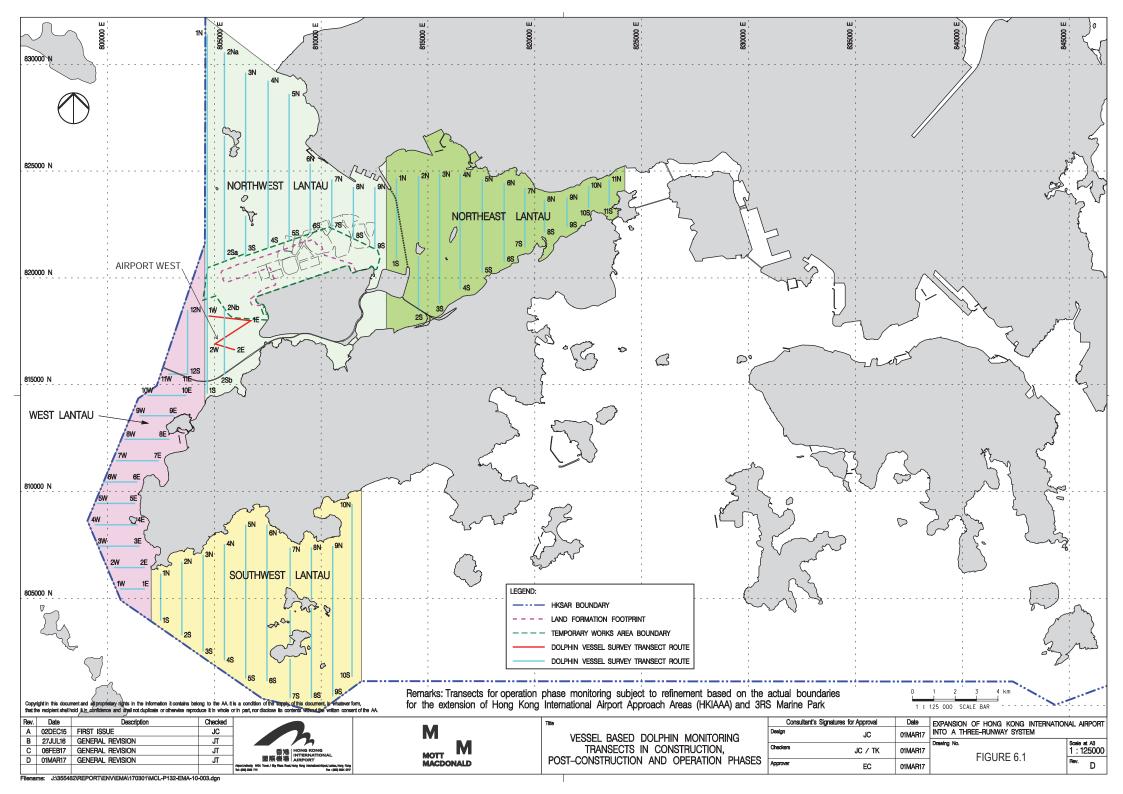
Figures

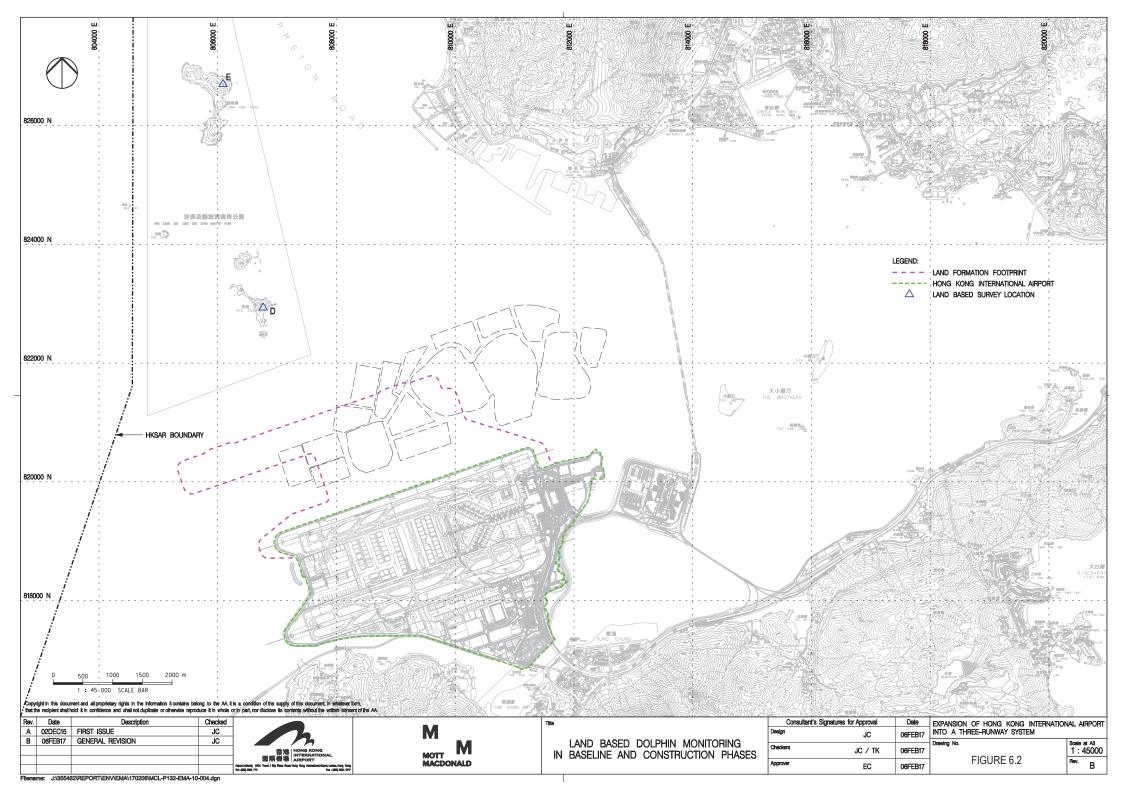


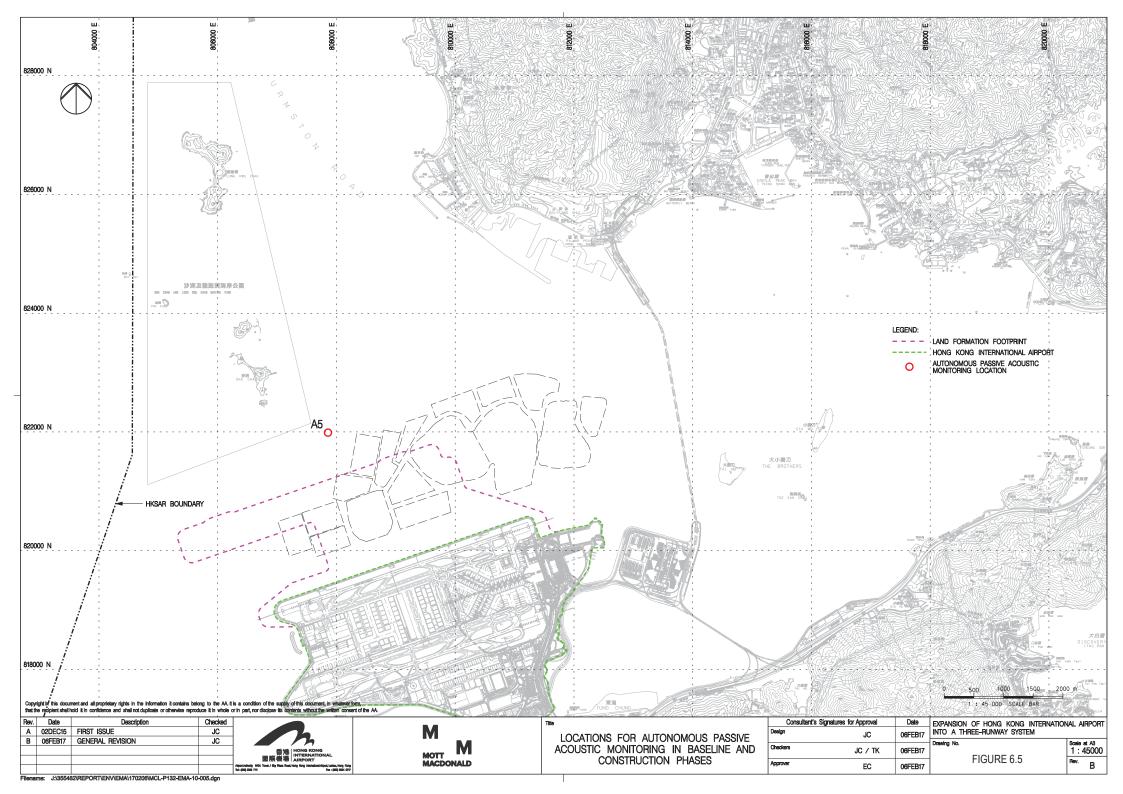












Appendix A. Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase



Appendix A Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Air Quality Impact – Construction Phase	Of filedsures	
5.2.6.2	2.1	-	Dust Control Measures Water spraying for 12 times a day or once every two hours for 24-hour working at all active works area.	Within construction site / Duration of the construction phase	I
5.2.6.3	2.1	-	 Covering of at least 80% of the stockpiling area by impervious sheets. Water spraying of all dusty materials immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling. 	Within construction site / Duration of the construction phase	I
5.2.6.4	2.1	-	Dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted. These practices include: Good Site Management Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or byproducts should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning.	Within construction site / Duration of the construction phase	I
			Disturbed Parts of the Roads Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.	Within construction site / Duration of the construction phase	I
			 Exposed Earth Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. 	Within construction site / Duration of the construction phase	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?
			Loading, Unloading or Transfer of Dusty Materials All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.	Within construction site / Duration of the construction phase	I
			Debris Handling Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides; and Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.	Within construction site / Duration of the construction phase	I
			Transport of Dusty Materials • Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards.	Within construction site / Duration of the construction phase	I
			Wheel washing Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.	Within construction site / Duration of the construction phase	I
			Use of vehicles The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site;	Within construction site / Duration of the construction phase	I
			 Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; and Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be 		
			• Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.		
			Site hoarding Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.	Within construction site / Duration of the construction phase	I
5.2.6.5	2.1	-	Best Practices for Concrete Batching Plant The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2 as well as in the future Specified Process licence should be adopted. The best practices are recommended to be applied to both the land based and floating concrete batching plants. Best practices include:	Within Concrete Batching Plant / Duration of the construction phase	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			• The loading, unloading, handling, transfer or storage of cement, pulverised fuel ash (PFA) and/or other equally dusty materials shall be carried in a totally enclosed system acceptable to EPD. All dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the required emission limit;		
			Cement, PFA and/or other equally dusty materials shall be stored in storage silo fitted with audible high level alarms to warn of over-filling. The high-level alarm indicators shall be interlocked with the material filling line such that in the event of the silo approaching an overfilling condition, an audible alarm will operate, and after 1 minute or less the material filling line will be closed;		
			 Vents of all silos shall be fitted with fabric filtering system to meet the required emission limit; 		
			 Vents of cement/PFA weighing scale shall be fitted with fabric filtering system to meet the required emission limit; and 		
			 Seating of pressure relief valves of all silos shall be checked, and the valves re-seated if necessary, before each delivery. 		
			Other raw materials	Within Concrete	N/A
			 The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rock, sand, stone aggregate, shall be carried out in such a manner to prevent or minimize dust emissions; 	Batching Plant / Duration of the construction phase	
			 The materials shall be adequately wetted prior to and during the loading, unloading and handling operations. Manual or automatic water spraying system shall be provided at all unloading areas, stock piles and material discharge points; 		
			 All receiving hoppers for unloading relevant materials shall be enclosed on three sides up to 3 m above the unloading point. In no case shall these hoppers be used as the material storage devices; 		
			• The belt conveyor for handling materials shall be enclosed on top and two sides with a metal board at the bottom to eliminate any dust emission due to wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can achieve same performance;		
			 All conveyor transfer points shall be totally enclosed. Openings for the passage of conveyors shall be fitted with adequate flexible seals; 		
			 Scrapers shall be provided at the turning points of all conveyors to remove dust adhered to the belt surface; 		
			 Conveyors discharged to stockpiles of relevant materials shall be arranged to minimize free fall as far as practicable. All free falling transfer points from conveyors to stockpiles shall be enclosed with chute(s) and water sprayed; 		
			 Aggregates with a nominal size less than or equal to 5 mm should be stored in totally enclosed structure such as storage bin and should not be handled in open area. Where there is sufficient buffer area surrounding the concrete batching plant, ground stockpiling may be used; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side; 		
			 Aggregates with a nominal size greater than 5 mm should preferably be stored in a totally enclosed structure. If open stockpiling is used, the stockpile shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping; and 		
			■ The opening between the storage bin and weighing scale of the materials shall be fully enclosed.		
			Loading of materials for batching	Within Concrete	N/A
			Concrete truck shall be loaded in such a way as to minimise airborne dust emissions. The following control measures shall be implemented:	Batching Plant / Duration of the construction phase	
			(a) Pre-mixing the materials in a totally enclosed concrete mixer before loading the materials into the concrete truck is recommended. All dust-laden air generated by the pre-mixing process as well as the loading process shall be totally vented to fabric filtering system to meet the required emission limit; and		
			(b) If truck mixing batching or other types of batching method is used, effective dust control measures acceptable to EPD shall be adopted. The dust control measures must have been demonstrated to EPD that they are capable to collect and vent all dust-laden air generated by the material loading/mixing to dust arrestment plant to meet the required emission limit.		
			The loading bay shall be totally enclosed during the loading process.		
			Vehicles All practicable measures shall be taken to prevent or minimize the dust emission caused by vehicle movement; and	Within Concrete Batching Plant / Duration of the construction phase	N/A
			All access and route roads within the premises shall be paved and adequately wetted.		
			 Housekeeping A high standard of housekeeping shall be maintained. All spillages or deposits of materials on ground, support structures or roofs shall be cleaned up promptly by a cleaning method acceptable to EPD. Any dumping of materials at open area shall be prohibited. 	Within Concrete Batching Plant / Duration of the construction phase	N/A
5.2.6.6	2.1	-	Best Practices for Asphaltic Concrete Plant	Within Concrete	N/A
			The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Tar and Bitumen Works (Asphaltic Concrete Plant) BPM 15 (94) as well as in the future Specified Process licence should be adopted. These include:	Batching Plant / Duration of the construction phase	
			Design of Chimney		
			• The chimney shall not be less than 3 metres plus the building height or 8 metres above ground level, whichever is the greater;		
			■ The efflux velocity of gases from the main chimney shall not be less than 12 m/s at full load condition;		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?
				Timing of completion of measures	F
			■ The flue gas exit temperature shall not be less than the acid dew point; and		
			 Release of the chimney shall be directed vertically upwards and not be restricted or deflected. 		
			Cold feed side	Within Concrete	N/A
			 The aggregates with a nominal size less than or equal to 5 mm shall be stored in totally enclosed structure such as storage bin and shall not be handled in open area; 	Batching Plant / Duration of the construction phase	
			• Where there is sufficient buffer area surrounding the plant, ground stockpiling may be used. The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side. If these aggregates are stored above the feeding hopper, they shall be enclosed at least on top and three sides and be wetted on the surface to prevent wind-whipping;		
			• The aggregates with a nominal size greater than 5 mm should preferably be stored in totally enclosed structure. Aggregates stockpile that is above the feeding hopper shall be enclosed at least on top and three sides. If open stockpiling is used, the stockpiles shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping;		
			 Belt conveyors shall be enclosed on top and two sides and provided with a metal board at the bottom to eliminate any dust emission due to the wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can be achieve the same performance; 		
			 Scrapers shall be provided at the turning points of all belt conveyors inside the chute of the transfer points to remove dust adhered to the belt surface; 		
			 All conveyor transfer points shall be totally enclosed. Openings for the passages of conveyors shall be fitted with adequate flexible seals; and 		
			 All materials returned from dust collection system shall be transferred in enclosed system and shall be stored inside bins or enclosures. 		
			Hot feed side	Within Concrete	N/A
			 The inlet and outlet of the rotary dryer shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter. The particulate and gaseous concentration at the exhaust outlet of the dust collector shall not exceed the required limiting values; 	Batching Plant / Duration of the construction phase	
			 The bucket elevator shall be totally enclosed and the air be extracted and ducted to a dust collection system to meet the required particulates limiting value; 		
			 All vibratory screens shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings; 		
			 Chutes for carrying hot material shall be rigid and preferably fitted with abrasion resistant plate inside. They shall be inspected daily for leakages; 		



	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
				Timing of completion of measures	Implemented?^
			• All hot bins shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings. The air shall be extracted and ducted to a dust collection system to meet the required particulates limiting value; and		
			 Appropriate control measures shall be adopted in order to meet the required bitumen emission limit as well as the ambient odour level (2 odour units). 		
			Material transportation	Within Concrete	N/A
			 The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rocks, sands, stone aggregates, reject fines, shall be carried out in such a manner as to minimize dust emissions; 	Batching Plant / Duration of the construction phase	
			 Roadways from the entrance of the plant to the product loading points and/or any other working areas where there are regular movements of vehicles shall be paved or hard surfaced; and 		
			Haul roads inside the Works shall be adequately wetted with water and/or chemical suppressants by water trucks or water sprayers.		
			Control of emissions from bitumen decanting	Within Concrete	N/A
			 The heating temperature of the particular bitumen type and grade shall not exceed the corresponding temperature limit of the same type listed in Appendix 1 of the Guidance Note; 	Batching Plant / Duration of the	
			 Tamper-free high temperature cut-off device shall be provided to shut off the fuel supply or electricity in case the upper limit for bitumen temperature is reached; 	construction phase	
			 Proper chimney for the discharge of bitumen fumes shall be provided at high level; 		
			 The emission of bitumen fumes shall not exceed the required emission limit; and 		
			The air-to-fuel ratio shall be properly controlled to allow complete combustion of the fuel. The fuel burners, if any, shall be maintained properly and free from carbon deposits in the burner nozzles.		
			Liquid fuel	Within Concrete	N/A
			 The receipt, handling and storage of liquid fuel shall be carried out so as to prevent the release of emissions of organic vapours and/or other noxious and offensive emissions to the air. 	Batching Plant / Duration of the construction phase	
			Housekeeping	Within Concrete	N/A
			A high standard of housekeeping shall be maintained. Waste material, spillage and scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared frequently. The minimum clearing frequency is on a weekly basis.	Batching Plant / Duration of the construction phase	
5.2.6.7	2.1	-	Best Practices for Rock Crushing Plants	Within Concrete	N/A
			The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Mineral Works (Stone Crushing Plant) BPM 11/1 (95) as well as in the future Specified Process licence should be adopted. These include:	Batching Plant / Duration of the construction phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion	Mitigation Measures Implemented?
				of measures	
			Crushers		
			• The outlet of all primary crushers, and both inlet and outlet of all secondary and tertiary crushers, if not installed inside a reasonably dust tight housing, shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter;		
			 The inlet hopper of the primary crushers shall be enclosed on top and 3 sides to contain the emissions during dumping of rocks from trucks. The rock while still on the trucks shall be wetted before dumping; 		
			• Water sprayers shall be installed and operated in strategic locations at the feeding inlet of crushers; and		
			 Crusher enclosures shall be rigid and be fitted with self-closing doors and close-fitting entrances and exits. Where conveyors pass through the crusher enclosures, flexible covers shall be installed at entries and exits of the conveyors to the enclosure. 		
			Vibratory screens and grizzlies	Within Concrete Batching Plant / Duration of the construction phase	N/A
			• All vibratory screens shall be totally enclosed in a housing. Screenhouses shall be rigid and reasonably dust tight with self-closing doors or close-fitted entrances and exits for access. Where conveyors pass through the screenhouse, flexible covers shall be installed at entries and exits of the conveyors to the housing. Where containment of dust within the screenhouse structure is not successful then a dust extraction and collection system shall be provided; and		
			 All grizzlies shall be enclosed on top and 3 sides and sufficient water sprayers shall be installed at their feeding and outlet areas. 		
			Belt conveyors	Within Concrete	N/A
			 Except for those conveyors which are placed within a totally enclosed structure such as a screenhouse or those erected at the ground level, all conveyors shall be totally enclosed with windshield on top and 2 sides; 	Batching Plant / Duration of the construction phase	
			• Effective belt scraper such as the pre-cleaner blades made by hard wearing materials and provided with pneumatic tensioner, or equivalent device, shall be installed at the head pulley of designated conveyor as required to dislodge fine dust particles that may adhere to the belt surface and to reduce carry-back of fine materials on the return belt. Bottom plates shall also be provided for the conveyor unless it has been demonstrated that the corresponding belt scraper is effective and well maintained to prevent falling material from the return belt; and		
			Except for those transfer points which are placed within a totally enclosed structure such as a screenhouse, all transfer points to and from conveyors shall be enclosed. Where containment of dust within the enclosure is not successful, then water sprayers shall be provided. Openings for any enclosed structure for the passage of conveyors shall be fitted with flexible seals.		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Storage piles and bins • Where practicable, free falling transfer points from conveyors to stockpiles shall be fitted with flexible curtains or be enclosed with chutes designed to minimize the drop height. Water sprays shall also be used where required.	Within Concrete Batching Plant / Duration of the construction phase	N/A
			 The surface of all surge piles and stockpiles of blasted rocks or aggregates shall be kept sufficiently wet by water spraying wherever practicable; 		
			 All open stockpiles for aggregates of size in excess of 5 mm shall be kept sufficiently wet by water spraying where practicable; or 		
			• The stockpiles of aggregates 5 mm in size or less shall be enclosed on 3 sides or suitably located to minimize wind-whipping. Save for fluctuations in stock or production, the average stockpile shall stay within the enclosure walls and in no case the height of the stockpile shall exceed twice the height of the enclosure walls.		
			 Scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared regularly. 		
			Rock drilling equipment	Within Concrete	N/A
			 Appropriate dust control equipment such as a dust extraction and collection system shall be used during rock drilling activities. 	Batching Plant / Duration of the construction phase	
			Hazard to Human Life – Construction Phase		
Table 6.40	3.2	-	Precautionary measures should be established to request barges to move away during typhoons.	Construction Site / Construction Period	I
Table 6.40	3.2	-	 An appropriate marine traffic management system should be established to minimize risk of ship collision. 	Construction Site / Construction Period	1
Table 6.40	3.2	-	 Location of all existing hydrant networks should be clearly identified prior to any construction works. 	Construction Site / Construction Period	N/A
			Noise Impact – Construction Phase		
7.5.6	4.3	3	Good Site Practice Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:	Within the Project site / During construction phase / Prior to	I
			 only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; 	commencement of operation	
			 machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	
			 plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; 		
			 mobile plant should be sited as far away from NSRs as possible; and 		
			 material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. 		
7.5.6	4.3	-	Adoption of QPME QPME should be adopted as far as applicable.	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	 Use of Movable Noise Barriers Movable noise barriers should be placed along the active works area and mobile plants to block the direct line of sight between PME and the NSRs. 	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	 Use of Noise Enclosure/ Acoustic Shed Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator. 	Within the Project site / During construction phase / Prior to commencement of operation	I
•			Water Quality Impact – Construction Phase		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
8.8.1.2 and 8.8.1.3	5.1	2.26	Marine Construction Activities	Within construction site / Duration of the construction phase	
			 General Measures to be Applied to All Works Areas Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation; 		
			 Use of Lean Material Overboard (LMOB) systems shall be prohibited; 		
			 Excess materials shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessels are moved; 		
			 Plants should not be operated with leaking pipes and any pipe leakages shall be repaired quickly; 		
			 Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; 		
			 All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; 		
			 The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site; and 		
			 For ground improvement activities including DCM, the wash water from cleaning of the drilling shaft should be appropriately treated before discharge. The Contractor should ensure the waste water meets the WPCO/TM requirements before discharge. No direct discharge of contaminated water is permitted. 		
			Specific Measures to be Applied to All Works Areas	Within construction site / Duration of the construction phase	
			 The daily maximum production rates shall not exceed those assumed in the water quality assessment in the EIA report; 		I
			 A maximum of 10 % fines content to be adopted for sand blanket and 20 % fines content for marine filling below +2.5 mPD prior to substantial completion of seawall (until end of Year 2017) shall be specified in the works contract document; 		
			 An advance seawall of at least 200m to be constructed (comprising either rows of contiguous permanent steel cells completed above high tide mark or partially completed seawalls with rock core to high tide mark and filter layer on the inner side) prior to commencement of marine filling activities; 		N/A
			 Closed grab dredger shall be used to excavate marine sediment; 		N/A
			 Silt curtains surrounding the closed grab dredger shall be deployed in accordance with the Silt Curtain Deployment Plan; and 		*(The arrangement silt curtain has bee modified. The detai can be referred to S Curtain Deploymen Plan)
			The Silt Curtain Deployment Plan shall be implemented.		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Specific Measures to be Applied to Land Formation Activities prior to Commencement of Marine Filling Works Double layer 'Type III' silt curtains to be applied around the active eastern works areas prior to commencement of sand blanket laying activities. The silt curtains shall be configured to minimise SS release during ebb tides. A silt curtain efficiency test shall be conducted to validate the performance of the silt curtains; Double layer silt curtains to enclose WSRs C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of construction; and 	Within construction site / Duration of the construction phase	NA *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan) For C7a, I For C8, N/A *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			■ The silt curtains and silt screens should be regularly checked and maintained.	Within construction site / Duration of the construction phase	I
			Specific Measures to be Applied to Land Formation Activities during Marine Filling Works Double layer 'Type II' or 'Type III' silt curtains to be applied around the eastern openings between partially completed seawalls prior to commencement of marine filling activities. The silt curtains shall be configured to minimise SS release during ebb tides;		N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			 Double layer silt curtains to be applied at the south-western opening prior to commencement of marine filling activities; 		N/A *(The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			 Double layer silt curtain to enclose WSR C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of marine filling activities; and 		N/A *(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			The silt curtains and silt screens should be regularly checked and maintained.		N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion	Mitigation Measures Implemented?
				of measures	
			Specific Measures to be Applied to the Field Joint Excavation Works for the Submarine Cable Diversion	Within construction	N/A
			 Only closed grabs designed and maintained to avoid spillage shall be used and should seal tightly when operated. Excavated materials shall be disposed at designated marine disposal area in accordance with the Dumping and Sea Ordinance (DASO) permit conditions; and 	site / Duration of the construction phase	
			 Silt curtains surrounding the closed grab dredger to be deployed as a precautionary measure. 		
8.8.1.4	5.1	-	Modification of the Existing Seawall	At the existing	N/A
			• Silt curtains shall be deployed around the seawall modification activities to completely enclose the active works areas, and care should be taken to avoid splashing of rockfill / rock armour into the surrounding marine environment. For the connecting sections with the existing outfalls, works for these connection areas should be undertaken during the dry season in order that individual drainage culvert cells may be isolated for interconnection works.	northern seawall / Duration of the construction phase	
8.8.1.5	5.1	-	Construction of New Stormwater Outfalls and Modifications to Existing Outfalls	Within construction	N/A
			 During operation of the temporary drainage channel, runoff control measures such as bunding or silt fence shall be provided on both sides of the channel to prevent accumulation and release of SS via the temporary channel. Measures should also be taken to minimise the ingress of site drainage into the culvert excavations. 	site / Duration of the construction phase	
8.8.1.6	5.1	2.27	Piling Activities for Construction of New Runway Approach Lights and HKIAAA Marker Beacons	Within construction	N/A
8.8.1.7			Silt curtains shall be deployed around the piling activities to completely enclose the piling works and care should be taken to avoid spillage of excavated materials into the surrounding marine environment.	site / Duration of the construction phase	
			For construction of the eastern approach lights at the CMPs		
			 Ground improvement via DCM using a close-spaced layout shall be completed prior to commencement of piling works; 		
			 Steel casings shall be installed to enclose the excavation area prior to commencement of excavation; 		
			The excavated materials shall be removed using a closed grab within the steel casings;		
			No discharge of the cement mixed materials into the marine environment will be allowed; and		
			Excavated materials shall be treated and reused on-site.		
8.8.1.8	5.1	-	Construction of Site Runoff and Drainage The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended:	Within construction site / Duration of the construction phase	
			 Install perimeter cut-off drains to direct off-site water around the site and implement internal drainage, erosion and sedimentation control facilities. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site 	-	T



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	implemented?*
			drainage system should be undertaken by the Contractors prior to the commencement of construction (for works areas located on the existing Airport island) or as soon as the new land is completed (for works areas located on the new landform);	_	
			Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM-DSS standards under the WPCO. The design of efficient silt removal facilities should make reference to the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractors prior to the commencement of construction;	_	1
			 All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly; 		1
			 Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities; 		N/A
			• In the event that contaminated groundwater is identified at excavation areas, this should be treated on- site using a suitable wastewater treatment process. The effluent should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge to foul sewers or collected for proper disposal off-site. No direct discharge of contaminated groundwater is permitted; and		N/A
			• All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exits. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. All washwater should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge.		I
8.8.1.9	5.1	-	Sewage Effluent from Construction Workforce	Within construction site / During	I
			 Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance. 	construction phase	
8.8.1.10	5.1		General Construction Activities	Within construction	I
8.8.1.11			 Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used; and 	site / During construction phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures
			Timing of completion of measures	Implemented?	
			• Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.		
8.8.1.12	5.1	2.28	Drilling Activities for the Submarine Aviation Fuel Pipelines	Within construction	I
8.8.1.13			To prevent potential water quality impacts at Sha Chau, the following measures shall be applied:	site / During	
			 A 'zero-discharge' policy shall be applied for all activities to be conducted at Sha Chau; 	construction phase	
			 No bulk storage of chemicals shall be permitted; and 		
			 A containment pit shall be constructed around the drill holes. This containment pit shall be lined with impermeable lining and bunded on the outside to prevent inflow from off-site areas. 		
			At the airport island side of the drilling works, the following measures shall be applied for treatment wastewater:	Within construction site / During	I
			 During pipe cleaning, appropriate desilting or sedimentation device should be provided on site for treatment before discharge. The Contractor should ensure discharge water from the sedimentation tank meet the WPCO/TM requirements before discharge; and 	construction phase	
			 Drilling fluid used in drilling activities should be reconditioned and reused as far as possible. Temporary enclosed storage locations should be provided on-site for any unused chemicals that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. 		
			Waste Management Implication – Construction Phase		
10.5.1.1	7.1	-	Opportunities to minimise waste generation and maximise the reuse of waste materials generated by the project have been incorporated where possible into the planning, design and construction stages, and the following measures have been recommended:		
			• The relevant construction methods (particularly for the tunnel works) and construction programme have been carefully planned and developed to minimise the extent of excavation and to maximise the on-site reuse of inert C&D materials generated by the project as far as practicable. Temporary stockpiling areas will also be provided to facilitate on-site reuse of inert C&D materials;	Project Site Area / During design and construction phase	1
			 Priority should be given to collect and reuse suitable inert C&D materials generated from other concurrent projects and the Government's PFRF as fill materials for the proposed land formation works; 		1
			 Only non-dredged ground improvement methods should be adopted in order to completely avoid the need for dredging and disposal of marine sediment for the proposed land formation work; 	•	I
			 Excavation work for constructing the APM tunnels, BHS tunnels and airside tunnels will not be down to the CMPs beneath the fill materials in order to avoid excavating any sediments; and 	-	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
			For the marine sediments expected to be excavated from the piling works of TRC, APM & BHS tunnels, airside tunnels and other facilities on the proposed land formation area, piling work of marine sections of the approach lights and HKIAAA beacons, basement works for some of T2 expansion area and excavation works for the proposed APM depot should be treated and reused on-site as backfilling materials, although required treatment level / detail and the specific re-use mode are under development.		N/A
10.5.1.1	7.1	-	The following good site practices should be performed during the construction activities include:	Project Site Area /	I
			 Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; 	Construction Phase	
			 Training of site personnel in proper waste management and chemical waste handling procedures; 		
			 Provision of sufficient waste disposal points and regular collection for disposal; 		
			 Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks by tarpaulin/ similar material or by transporting wastes in enclosed containers. The cover should be extended over the edges of the sides and tailboards; 		
			 Stockpiles of C&D materials should be kept wet or covered by impervious sheets to avoid wind-blown dust; 		
			 All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the barging points/ stockpile areas; 		
			 C&D materials to be delivered to and from the project site by barges or by trucks should be kept wet or covered to avoid wind-blown dust; 		
			• The speed of the trucks including dump trucks carrying C&D or waste materials within the site should be controlled to about 10 km/hour in order to reduce the adverse dust impact and secure the safe movement around the site; and		
			To avoid or minimise dust emission during transport of C&D or waste materials within the site, each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials. Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.		
10.5.1.3	7.1	-	The following practices should be performed to achieve waste reduction include:	Project Site Area /	1
			 Use of steel or aluminium formworks and falseworks for temporary works as far as practicable; 	Construction Phase	
			 Adoption of repetitive design to allow reuse of formworks as far as practicable; 		
			 Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; 		
			 Any unused chemicals or those with remaining functional capacity should be collected for reused as far as practicable; 		
			 Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and 		
			 Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 		
10.5.1.5	7.1		 Inert and non-inert C&D materials should be handled and stored separately to avoid mixing the two types of materials. 	Project Site Area / Construction Phase	I
10.5.1.5	7.1	-	Any recyclable materials should be segregated from the non-inert C&D materials for collection by reputable licensed recyclers whereas the non-recyclable waste materials should be disposed of at the designated landfill site by a reputable licensed waste collector.	Project Site Area / Construction Phase	I
10.5.1.6	7.1	-	 A trip-ticket system promulgated shall be developed in order to monitor the off-site delivery of surplus inert C&D materials that could not be reused on-site for the proposed land formation work at the PFRF and to control fly tipping. 	Project Site Area / Construction Phase	I
10.5.1.6	7.1	2.32	 The Contractor should prepare and implement a Waste Management Plan detailing various waste arising and waste management practices. 	Construction Phase	1
10.5.1.16	7.1	-	The following mitigation measures are recommended during excavation and treatment of the sediments: On-site remediation should be carried out in an enclosed area in order to minimise odour/dust	Project Site Area / Construction Phase	N/A
			emissions;		
			 The loading, unloading, handling, transfer or storage of treated and untreated sediment should be carried out in such a manner to prevent or minimise dust emissions; 		
			 All practical measures, including but not limited to speed control for vehicles, should be taken to minimise dust emission; 		
			 Good housekeeping should be maintained at all times at the sediment treatment facility and storage area; 		
			 Treated and untreated sediment should be clearly separated and stored separately; and 		
			 Surface runoff from the enclosed area should be properly collected and stored separately, and then properly treated to levels in compliance with the relevant effluent standards as required by the Water Pollution Control Ordinance before final discharge. 		
10.5.1.18	7.1	-	The marine sediments to be removed from the cable field joint area would be disposed of at the designated disposal sites to be allocated by the MFC. The following mitigation measures should be strictly	Project Site Area / Construction Phase	N/A



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			followed to minimise potential impacts on water quality during transportation of the sediments requiring Type 1 disposal:		
			 Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material; 		
			 Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by EPD; and 		
			 Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation. 		
10.5.1.19	7.1	-	Contractor should register with the EPD as a chemical waste producer and to follow the relevant guidelines. The following measures should be implemented:	Project Site Area / Construction Phase	1
			 Good quality containers compatible with the chemical wastes should be used; 		
			Incompatible chemicals should be stored separately;		
			 Appropriate labels must be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.; and 		
			 The contractor will use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. 		
10.5.1.20	7.1	-	 General refuse should be stored in enclosed bins or compaction units separated from inert C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site for disposal at designated landfill sites. An enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material. 	Project Site Area / Construction Phase	I
10.5.1.21	7.1	-	 The construction contractors will be required to regularly check and clean any refuse trapped or accumulated along the newly constructed seawall. Such refuse will then be stored and disposed of together with the general refuse. 	Project Site Area / Construction Phase	N/A
			Land Contamination – Construction Phase		
11.10.1.2	8.1	2.32	For areas inaccessible during site reconnaissance survey	Project Site Area	
to 11.10.1.3			• Further site reconnaissance would be conducted once the areas are accessible in order to identify any land contamination concern for the areas.	inaccessible during site reconnaissance / Prior to Construction Phase	1
			 Subject to further site reconnaissance findings, a supplementary Contamination Assessment Plan (CAP) for additional site investigation (SI) (if necessary) may be prepared and submitted to EPD for endorsement prior to the commencement of SI at these areas. 	-	1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			• After completion of SI, the Contamination Assessment Report (CAR) will be prepared and submitted to EPD for approval prior to start of the proposed construction works at the golf course, the underground and above-ground fuel storage tank areas, emergency power generation units, airside petrol filling station and fuel tank room.		N/A
			 Should remediation be required, Remediation Action Plan (RAP) and Remediation Report (RR) will be prepared for EPD's approval prior to commencement of the proposed remediation and any construction works respectively. 		N/A
11.8.1.2	8.1	-	If contaminated soil is identified, the following mitigation measures are for the excavation and transportation of contaminated materials (if any):	Project Site Area / Construction Phase	N/A
			 To minimize the incidents of construction workers coming in contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; 		
			 Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when working directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; 		
			 Stockpiling of contaminated excavated materials on site should be avoided as far as possible; 		
			 The use of any contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; 		
			 Vehicles containing any excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater; 		
			 Truck bodies and tailgates should be sealed to prevent any discharge; 		
			 Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; 		
			 Speed control for trucks carrying contaminated materials should be exercised. 8km/h is the recommended speed limit; 		
			 Strictly observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and 		
			 Maintain records of waste generation and disposal quantities and disposal arrangements. 		
			Terrestrial Ecological – Construction Phase		
12.10.1.1	9.2	2.14	Pre-construction Egretry Survey Conduct ecological survey for Sha Chau egretry to update the latest boundary of the egretry.	Breeding season (April - July) prior to commencement of HDD drilling works at HKIA	I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
12.7.2.3 and 12.7.2.6	9.1	2.30	Avoidance and Minimisation of Direct Impact to Egretry The daylighting location will avoid direct encroachment to the Sheung Sha Chau egretry. The daylighting location and mooring of flat top barge, if required, will be kept away from the egretry;	During construction phase at Sheung Sha Chau Island	I
			 In any event, controls such as demarcation of construction site boundary and confining the lighting within the site will be practised to minimise disturbance to off-site habitat at Sheung Sha Chau Island; and 		
			The containment pit at the daylighting location shall be covered or camouflaged.		
12.7.2.5	9.1	2.30	Preservation of Nesting Vegetation	During construction	1
			• The proposed daylighting location and the arrangement of connecting pipeline will avoid the need of tree cutting, therefore the trees that are used by ardeids for nesting will be preserved.	phase at Sheung Sha Chau Island	
12.7.2.4	9.1	2.30	Timing the Pipe Connection Works outside Ardeid's Breeding Season	During construction	I
and 12.7.2.6			 All HDD and related construction works on Sheung Sha Chau Island will be scheduled outside the ardeids' breeding season (between April and July). No night-time construction work will be allowed on Sheung Sha Chau Island during all seasons. 	phase at Sheung Sha Chau Island	
12.10.1.1	9.3	-	 Ecological Monitoring During the HDD construction works period from August to March, ecological monitoring will be undertaken monthly at the HDD daylighting location on Sheung Sha Chau Island to identify and evaluate any impacts with appropriate actions taken as required to address and minimise any adverse impact found. 	at Sheung Sha Chau Island	I
			Marine Ecological Impact – Pre-construction Phase		
13.11.4.1	10.2.2	-	■ Pre-construction phase Coral Dive Survey.	HKIAAA artificial seawall	I
			Marine Ecological Impact – Construction Phase		
13.11.1.3 to 13.11.1.6	-	-	Minimisation of Land Formation Area • Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population.	Land formation footprint / during detailed design phase to completion of construction	I
13.11.1.7	-	2.31	Use of Construction Methods with Minimal Risk/Disturbance	During construction	
to 13.11.1.10		-	 Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF; 	phase at marine works area	1
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on CWDs, fisheries and the marine environment; 		I



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; 		N/A
			 Avoid bored piling during CWD peak calving season (Mar to Jun); 	-	I
			■ Prohibition of underwater percussive piling; and		I
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of submarine cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources. 		I
13.11.2.1	-	-	Mitigation for Indirect Disturbance due to Deterioration of Water Quality	All works area during	
to 13.11.2.7			 Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices; 	the construction phase	I
			 Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains); 	_	I
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 		N/A
			Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources.	_	I
13.11.1.12	-	-	Strict Enforcement of No-Dumping Policy	All works area during	1
			 A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area; 	the construction phase	
			 Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; 		
			Fines for infractions should be implemented; and		
			 Unscheduled, on-site audits shall be implemented. 		
13.11.1.13	-	-	 Good Construction Site Practices Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; Keep the number of working or stationary vessels present on-site to the minimum anytime; and Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators. 	All works area during the construction phase	1
13.11.1.3	-	-	Minimisation of Land Formation Area	Land formation	1
to 13.11.1.6			 Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population. 	footprint / during detailed design phase	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures	Mitigation Measures Implemented?^
				Timing of completion of measures	implemented?"
				to completion of construction	
13.11.5.4	10.3.1	-	SkyPier High Speed Ferries' Speed Restrictions and Route Diversions	Area between the	I
to 13.11.5.13			SkyPier HSFs operating to / from Zhuhai and Macau would divert north of SCLKC Marine Park with a 15 knot speed limit to apply for the part-journeys that cross high CWD abundance grid squares as indicatively shown in Drawing No. MCL/P132/EIA/13-023 of the EIA Report. Both the alignment of the northerly route and the portion of routings to be subject to the speed limit of 15 knots shall be finalised prior to commencement of construction based on the future review of up-to-date CWD abundance and EM&A data and taking reference to changes in total SkyPier HSF numbers; and	footprint and SCLKC Marine Park during construction phase	
			■ A maximum of 10 knots will be enforced through the designated SCLKC Marine Park area at all times.		
			Other mitigation measures	Area between the	I
			 The ET will audit various parameters including actual daily numbers of HSFs, compliance with the 15-knot speed limit in the speed control zone and diversion compliance for SkyPier HSFs operating to / from Zhuhai and Macau; and 	footprint and SCLKC Marine Park during construction phase	
			 The effectiveness of the CWD mitigation measures after implementation of initial six month SkyPier HSF diversion and speed restriction will be reviewed. 		
13.11.5.14	10.3.1	2.31	Dolphin Exclusion Zone	Marine waters around	
to 13.11.5.18			 Establishment of a 24 hr Dolphin Exclusion Zone (DEZ) with a 250 m radius around the land formation works areas; 	land formation works area during construction phase	I
			 A DEZ would also be implemented during ground improvement works (e.g. DCM), water jetting works for submarine cables diversion, open trench dredging at the field joint locations and seawall construction; and 		I
			 A DEZ would also be implemented during bored piling work but as a precautionary measure only. 		N/A
13.11.5.19	10.4	2.31	Acoustic Decoupling of Construction Equipment	Around coastal works	I
			 Air compressors and other noisy equipment that must be mounted on steel barges should be acoustically-decoupled to the greatest extent feasible, for instance by using rubber or air-filled tyres; and 	area during construction phase	
			 Specific acoustic decoupling measures shall be specified during the detailed design of the project for use during the land formation works. 		
13.11.5.20	10.6.1	2.29	Spill Response Plan	Construction phase	1
			 An oil and hazardous chemical spill response plan is proposed to be established during the construction phase as a precautionary measure so that appropriate actions to prevent or reduce risks to CWDs can be undertaken in the event of an accidental spillage. 		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?
13.11.5.21 to 13.11.5.23	10.6.1	-	Construction Vessel Speed Limits and Skipper Training A speed limit of 10 knots should be strictly observed for construction vessels at areas with the highest CWD densities; and Vessels traversing through the work areas should be required to use predefined and regular routes (which would presumably become known to resident dolphins) to reduce disturbance to cetaceans due to vessel movements. Specific marine routes shall be specified by the Contractor prior to construction commencing.	All areas north and west of Lantau Island during construction phase	I
			Fisheries Impact – Construction Phase		
14.9.1.2 to 14.9.1.5	-		Minimisation of Land Formation Area Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for fisheries resources.	Land formation footprint / during detailed design phase to completion of construction	I
14.9.1.6	-	-	Use of Construction Methods with Minimal Risk/Disturbance Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF;	During construction phase at marine works area	1
			 Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on fisheries and the marine environment; 		I
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	-	N/A
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources. 		I
14.9.1.11	-		Strict Enforcement of No-Dumping Policy • A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area;	All works area during the construction phase	I
			 Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; 		
			Fines for infractions should be implemented; and		
			 Unscheduled, on-site audits shall be implemented. 		
14.9.1.12	-		 Good Construction Site Practices Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; Keep the number of working or stationary vessels present on-site to the minimum anytime; and 	All works area during the construction phase	1



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			 Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators. 		
14.9.1.13	-		Mitigation for Indirect Disturbance due to Deterioration of Water Quality	All works area during	
to 14.9.1.18			 Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices; 	the construction phase	1
			Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains);		I
			 Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and 	_	N/A
			 Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources. 		I
			Landscape and Visual Impact – Construction Phase		
Table 15.6	12.3	-	CM1 - The construction area and contractor's temporary works areas should be minimised to avoid impacts on adjacent landscape.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM2 - Reduction of construction period to practical minimum.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM3 - Phasing of the construction stage to reduce visual impacts during the construction phase.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM4 - Construction traffic (land and sea) including construction plants, construction vessels and barges should be kept to a practical minimum.	All works areas for duration of works;	I
				Upon handover and completion of works.	
Table 15.6	12.3	-	CM5 - Erection of decorative mesh screens or construction hoardings around works areas in visually unobtrusive colours.	All works areas for duration of works;	I
				Upon handover and completion of works. –	



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion	Mitigation Measures Implemented?^
				may be disassembled in phases	
Table 15.6	12.3	-	CM6 - Avoidance of excessive height and bulk of site buildings and structures.	New passenger concourse, terminal 2 expansion and other proposed airport related buildings and structures under the project; Upon handover and completion of works.	N/A
Table 15.6 12.3 - CM	CM7 - Control of night-time lighting by hooding all lights and through minimisation of night working periods.	All works areas for duration of works;	I		
		Upon handover and completion of works. – may be disassembled in phases			
Table 15.6	12.3	-	CM8 - All existing trees shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall	All existing trees to be retained;	I
			be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas.	Upon handover and completion of works.	
Table 15.6	12.3	-	CM9 - Trees unavoidably affected by the works shall be transplanted where practical. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for	All existing trees to be affected by the works;	N/A
			necessary tree root and crown preparation periods shall be allowed in the project programme.	Upon handover and completion of works.	
Table 15.6	12.3	-	CM10 - Land formation works shall be followed with advanced hydroseeding around taxiways and runways as soon as practical.	All affected existing grass areas around runways and verges/Duration of works;	N/A
				Upon handover and completion of works.	
			Cultural Heritage Impact – Construction Phase		
			Not applicable.		



EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Health Impact – Aircraft Emissions		
			Not applicable.		
			Health Impact – Aircraft Noise		
	•		Not applicable.		

Notes:

I= implemented where applicable;

N/A= not applicable to the construction works implemented during the reporting month. ^ Checked by ET through site inspection and record provided by the Contractor.

Appendix B. Monitoring Schedule

1

Monitoring Schedule of This Reporting Period

Jun-17

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
				Site Inspection		
				4844		
				AR1A NM1A, NM4		
				140174,14014		
				WQ General & Regular DCM		
				mid-ebb: 18:35 mid-flood: 11:43		
4	5	6	7	8	9	10
T	· ·	Site Inspection	Site Inspection	Site Inspection	· ·	
		·	CWD Vessel Survey	CWD Vessel Survey	CWD Vessel Survey	
		AR2 NM3A, NM5	AR1A NM1A. NM4	NM6		
		NIVISA, INIVIS	NIVITA, NIVI4	NIVIO		
WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
mid-ebb: 10:07		mid-ebb: 11:24		mid-ebb: 12:30		mid-ebb: 13:35
mid-flood: 16:00 11	12	mid-flood: 17:52 13	14	mid-flood: 19:22 15	16	mid-flood: 20:40 17
11	12	13	Site Inspection	Site Inspection	01	17
	CWD Vessel Survey		Site inspection	CWD Vessel Survey		
	AR2	AR1A		,	AR2	
	NM5, NM6		NM1A, NM4	NM3A		
		WQ General & Regular DCM^		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 15:18		mid-ebb: 16:40		mid-ebb: 06:59
- 10		mid-flood: 08:23		mid-flood: 09:45		mid-flood: 11:57
18	19	20	21	22	23	24
		Site Inspection	Site Inspection	Site Inspection CWD Vessel Survey	Site Inspection CWD Vessel Survey	
	AR1A			CWD Land-based Survey	CWD Land-based Survey	
	NM1A			AR2 NM3A, NM5, NM6	AR1A NM4	
		WQ General & Regular DCM		WQ General & Regular DCM	NM4	WQ General & Regular DCM
		mid-ebb: 09:57		mid-ebb: 11:31		mid-ebb: 13:05
		mid-flood: 16:02		mid-flood: 18:14		mid-flood: 20:10
25	26	27	28	29	30	
	Site Inspection CWD Land-based Survey	Site Inspection CWD Land-based Survey	Site Inspection CWD Vessel Survey	Site Inspection CWD Land-based Survey	Site Inspection	
	OVVD Zana Based Garvey	SVVB Earla Based Survey	AR2	AR1A		
	NM6		NM3A, NM5	NM1A, NM4		
		WQ General & Regular DCM		WQ General & Regular DCM		
		mid-ebb: 15:28		mid-ebb: 17:05		
		mid-flood: 08:29		mid-flood: 10:13		
		Notes:				
			NM1A/AR1A - Man Tung Road Park NM3A - Site Office			
			NM4 - Ching Chung Hau Po Woon Prim	ary School		
			NM5/AR2 - Village House, Tin Sum	-		
		CWD - Chinese White Dolphin	NM6 - House No. 1, Sha Lo Wan			
		WQ - Water Quality				
		DCM - Deep Cemenet Mixing				
		^ Cancelled due to adverse weather				
		Cancelled due to adverse weather				

1

Tentative Monitoring Schedule of Next Reporting Period

Jul-17

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
						WQ General & Regular DCM
						mid-ebb: 07:09 mid-flood: 12:38
2	3	4	5	6	7	8
		Site Inpsection	CWD Land-based Survey	Site Inpsection CWD Vessel Survey		
		AR1A, AR2	OVVD Earla based Garvey			
		NM1A, NM3A, NM4, NM5		NM6		
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 10:16 mid-flood: 16:47		mid-ebb: 11:34 mid-flood: 18:34		mid-ebb: 12:44 mid-flood: 19:50
9	10	11	12	13	14	15
	CWD Land-based Survey	Site Inpsection CWD Vessel Survey	CWD Vessel Survey	Site Inpsection CWD Vessel Survey	CWD Land-based Survey	
	AR1A, AR2	CVVD Vessel Sulvey	CVVD Vessel Sulvey		AR1A, AR2	
	NM1A, NM3A, NM4, NM5			NM6		
		WQ General & Regular DCM [^]		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 14:26 mid-flood: 07:33		mid-ebb: 15:37 mid-flood: 08:53		mid-ebb: 17:00 mid-flood: 10:31
16	17	18	19	20	21	22
	OMD I and based Owner.	Site Inpsection	OWD Land based Owner.	Site Inpsection CWD Vessel Survey	OMD Versel Overse	
	CWD Land-based Survey	CWD Vessel Survey	CWD Land-based Survey	AR1A, AR2	CWD Vessel Survey	
		NM6		NM1A, NM3A, NM4, NM5		
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 08:22 mid-flood: 14:30		mid-ebb: 10:22 mid-flood: 17:14		mid-ebb: 12:05 mid-flood: 19:12
23	24	25	26	27	28	29
		Site Inpsection CWD Vessel Survey		Site Inpsection		
		CWD vessel survey	AR1A, AR2			
	NM6		NM1A, NM3A, NM4, NM5			
		WQ General & Regular DCM		WQ General & Regular DCM		WQ General & Regular DCM
		mid-ebb: 14:27 mid-flood: 07:33		mid-ebb: 15:53 mid-flood: 09:08		mid-ebb: 17:14 mid-flood: 10:48
30	31	Notes:	ı	1000.		10.40
			NM1A/AR1A - Man Tung Road Park			
			NM3A - Site Office NM4 - Ching Chung Hau Po Woon Prim	nary School		
			NM5/AR2 - Village House, Tin Sum	•		
		CWD - Chinese White Dolphin	NM6 - House No. 1, Sha Lo Wan			
		WQ - Water Quality DCM - Deep Cemenet Mixing				
		DOM - Deep Cemenet Mixing				
	1					

Appendix C. Monitoring Results

Air Quality Monitoring Results

1-hour TSP Results

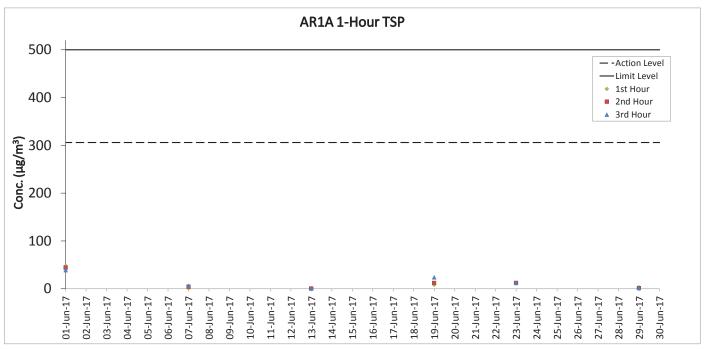
Station: AR1A- Man Tung Road Park

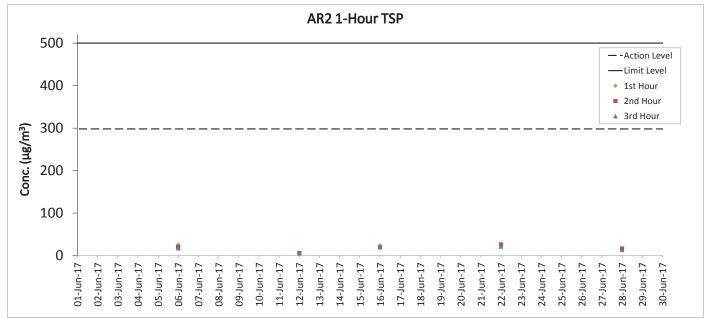
Station. ANIA-1	Tidir rang it	odd i dik					
Date	Time	Weather	Wind Speed	Wind Direction	1-hr TSP	Action Level	Limit Level
Date	111110	vvedilei	(m/s)	(deg)	$(\mu g/m^3)$	(µg/m³)	(µg/m³)
01-Jun-17	14:10	Fine	11	229	48	306	500
01-Jun-17	15:10	Fine	10.9	227	44	306	500
01-Jun-17	16:10	Fine	9.3	220	39	306	500
07-Jun-17	08:46	Sunny	4.9	169	1	306	500
07-Jun-17	09:46	Sunny	5.8	166	4	306	500
07-Jun-17	10:46	Sunny	4.5	172	6	306	500
13-Jun-17	13:05	Rainy	2.6	51	1	306	500
13-Jun-17	14:05	Rainy	2.9	71	0.3	306	500
13-Jun-17	15:05	Rainy	2.5	94	0.3	306	500
19-Jun-17	13:27	Cloudy	4.3	207	8	306	500
19-Jun-17	14:27	Cloudy	7.7	241	12	306	500
19-Jun-17	15:27	Cloudy	4.8	251	24	306	500
23-Jun-17	14:15	Sunny	3.6	154	11	306	500
23-Jun-17	15:15	Sunny	4.5	153	12	306	500
23-Jun-17	16:15	Sunny	3.6	154	12	306	500
29-Jun-17	14:10	Sunny	5.6	250	3	306	500
29-Jun-17	15:10	Sunny	6.5	242	1	306	500
29-Jun-17	16:10	Sunny	3.9	184	2	306	500

1-hour TSP Results

Station: AR2- Village House, Tin Sum

Station. Aitz vi	ilage House	., m. sam					
Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
06-Jun-17	09:10	Sunny	5.0	151	26	298	500
06-Jun-17	10:10	Sunny	6.0	163	20	298	500
06-Jun-17	11:10	Sunny	6.9	162	17	298	500
12-Jun-17	09:05	Cloudy	6.1	225	5	298	500
12-Jun-17	10:05	Cloudy	5.1	63	6	298	500
12-Jun-17	11:05	Cloudy	7.2	114	5	298	500
16-Jun-17	09:05	Cloudy	7.4	226	24	298	500
16-Jun-17	10:05	Cloudy	8.1	226	19	298	500
16-Jun-17	11:05	Cloudy	7.3	231	19	298	500
22-Jun-17	09:00	Fine	4.5	208	26	298	500
22-Jun-17	10:00	Fine	5.8	198	26	298	500
22-Jun-17	11:00	Fine	4.5	181	21	298	500
28-Jun-17	09:00	Sunny	3.7	243	17	298	500
28-Jun-17	10:00	Sunny	4.9	269	16	298	500
28-Jun-17	11:00	Sunnv	5.3	240	13	298	500





1

Noise Monitoring Results

Noise Measurement Results

Station: NM1A- Man Tung Road Park

5 .	144 .1		Measured	Measured	I -ID/A)
Date	Weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A) 71 72 72
01-Jun-17	Fine	15:00	70.5	59.0	
01-Jun-17	Fine	15:05	72.0	58.5	
01-Jun-17	Fine	15:10	71.0	59.0	71
01-Jun-17	Fine	15:15	70.0	57.5	/1
01-Jun-17	Fine	15:20	71.5	57.5	
01-Jun-17	Fine	15:25	72.0	59.5	
07-Jun-17	Sunny	10:38	73.0	61.5	
07-Jun-17	Sunny	10:43	73.0	60.5	
07-Jun-17	Sunny	10:48	71.0	59.0	72
07-Jun-17	Sunny	10:53	72.0	61.0	/2
07-Jun-17	Sunny	10:58	72.0	61.0	
07-Jun-17	Sunny	11:03	72.0	59.5	
14-Jun-17	Cloudy	15:25	72.0	60.0	
14-Jun-17	Cloudy	15:30	73.0	57.5	†
14-Jun-17	Cloudy	15:35	71.0	58.0	72
14-Jun-17	Cloudy	15:40	71.0	57.5	12
14-Jun-17	Cloudy	15:45	71.0	58.0	
14-Jun-17	Cloudy	15:50	72.5	59.5	
19-Jun-17	Cloudy	14:00	72.5	58.5	
19-Jun-17	Cloudy	14:05	72.0	58.5	
19-Jun-17	Cloudy	14:10	73.0	60.5	72
19-Jun-17	Cloudy	14:15	72.5	58.5	12
19-Jun-17	Cloudy	14:20	72.0	59.0	
19-Jun-17	Cloudy	14:25	71.5	58.5	
29-Jun-17	Sunny	14:36	71.0	58.5	
29-Jun-17	Sunny	14:41	72.0	58.5	
29-Jun-17	Sunny	14:46	66.0	55.0	70
29-Jun-17	Sunny	14:51	71.0	55.5] /0
29-Jun-17	Sunny	14:56	70.0	56.0	
29-Jun-17	Sunny	15:01	72.5	58.0	

Remarks:

Noise Measurement Results

Date	Weather	Time	Measured L ₁₀ dB(A)	Measured L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
06-Jun-17	Sunny	15:20	62.5	59.5	
06-Jun-17	Sunny	15:25	63.0	59.5	
06-Jun-17	Sunny	15:30	62.0	59.5	61
06-Jun-17	Sunny	15:35	64.0	60.0	01
06-Jun-17	Sunny	15:40	61.0	59.0	
06-Jun-17	Sunny	15:45	61.0	52.5	
15-Jun-17	Fine	16:05	65.5	61.0	
15-Jun-17	Fine	16:10	63.5	61.0	
15-Jun-17	Fine	16:15	62.0	60.5	57
15-Jun-17	Fine	16:20	65.0	60.5	37
15-Jun-17	Fine	16:25	66.5	61.0]
15-Jun-17	Fine	16:30	65.0	61.0	
22-Jun-17	Sunny	15:05	61.5	59.5	
22-Jun-17	Sunny	15:10	60.5	59.5	
22-Jun-17	Sunny	15:15	61.0	59.5	60
22-Jun-17	Sunny	15:20	60.5	59.5	00
22-Jun-17	Sunny	15:25	61.5	59.5	
22-Jun-17	Sunny	15:30	60.5	59.5	
28-Jun-17	Sunny	13:27	62.5	60.5	
28-Jun-17	Sunny	13:32	61.0	60.0	
28-Jun-17	Sunny	13:37	64.5	60.0	61
28-Jun-17	Sunny	13:42	63.0	60.0	οτ
28-Jun-17	Sunny	13:47	61.0	60.0	
28-Jun-17	Sunny	13:52	60.5	59.5	

⁺³dB (A) correction was applied to free-field measurement.

Noise Measurement Results

Station: NM4- Ching Chung Hau Po Won Primary School

Data	Manth on	T:	Measured	Measured	I dD/A\
Date	Weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
01-Jun-17	Fine	13:20	62.5	59.5	
01-Jun-17	Fine	13:25	63.5	61.0	
01-Jun-17	Fine	13:30	63.5	61.0	
01-Jun-17	Fine	13:35	64.0	60.5	- 65
01-Jun-17	Fine	13:40	63.0	59.5	1
01-Jun-17	Fine	13:45	63.0	59.0	1
07-Jun-17	Sunny	09:22	64.0	60.5	
07-Jun-17	Sunny	09:27	64.0	61.0	1
07-Jun-17	Sunny	09:32	65.0	60.0	1
07-Jun-17	Sunny	09:37	62.5	60.0	- 65
07-Jun-17	Sunny	09:42	63.5	60.0	
07-Jun-17	Sunny	09:47	63.0	60.0	1
14-Jun-17	Cloudy	14:19	63.0	59.0	
14-Jun-17	Cloudy	14:24	63.5	59.5	1
14-Jun-17	Cloudy	14:29	63.0	59.0	65
14-Jun-17	Cloudy	14:34	63.5	59.0	- 65
14-Jun-17	Cloudy	14:39	64.0	60.0	1
14-Jun-17	Cloudy	14:44	66.0	60.0	1
23-Jun-17	Sunny	13:17	63.0	59.5	
23-Jun-17	Sunny	13:22	63.0	59.0	
23-Jun-17	Sunny	13:27	63.0	59.0	64
23-Jun-17	Sunny	13:32	62.5	59.0	04
23-Jun-17	Sunny	13:37	62.5	59.0	1
23-Jun-17	Sunny	13:42	62.5	60.0	
29-Jun-17	Sunny	13:15	62.5	58.5	
29-Jun-17	Sunny	13:20	62.0	58.5	
29-Jun-17	Sunny	13:25	62.5	58.0	64
29-Jun-17	Sunny	13:30	63.0	58.0	64
29-Jun-17	Sunny	13:35	65.5	59.5	
29-Jun-17	Sunny	13:40	63.0	59.0	

Remarks:

Noise Measurement Results

Station: NM5- Village House, Tin Sum

٠.	144 .1		Measured	Measured	1 - JD(A)
Date	Weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
06-Jun-17	Sunny	09:39	56.0	52.5	
06-Jun-17	Sunny	09:44	66.5	60.0	
06-Jun-17	Sunny	09:49	68.0	66.5	66
06-Jun-17	Sunny	09:54	67.0	64.5	00
06-Jun-17	Sunny	09:59	65.5	62.0	
06-Jun-17	Sunny	10:04	58.5	54.0	
12-Jun-17	Cloudy	09:39	57.5	50.0	
12-Jun-17	Cloudy	09:44	60.0	49.5	
12-Jun-17	Cloudy	09:49	59.5	50.0	58
12-Jun-17	Cloudy	09:54	56.0	48.5	30
12-Jun-17	Cloudy	09:59	56.0	49.5	
12-Jun-17	Cloudy	10:04	58.0	51.0	
22-Jun-17	Fine	09:35	55.0	49.0	
22-Jun-17	Fine	09:40	55.5	47.0	
22-Jun-17	Fine	09:45	54.5	47.0	T.6
22-Jun-17	Fine	09:50	53.0	46.5	- 56
22-Jun-17	Fine	09:55	54.5	46.5	
22-Jun-17	Fine	10:00	57.5	47.5	
28-Jun-17	Sunny	09:50	57.0	47.0	
28-Jun-17	Sunny	09:55	59.5	45.5	
28-Jun-17	Sunny	10:00	61.5	48.0	7
28-Jun-17	Sunny	10:05	56.0	48.0	67
28-Jun-17	Sunny	10:10	54.5	49.5	
28-Jun-17	Sunny	10:15	72.5	50.0	

Remarks:

⁺³dB (A) correction was applied to free-field measurement.

⁺³dB (A) correction was applied to free-field measurement.

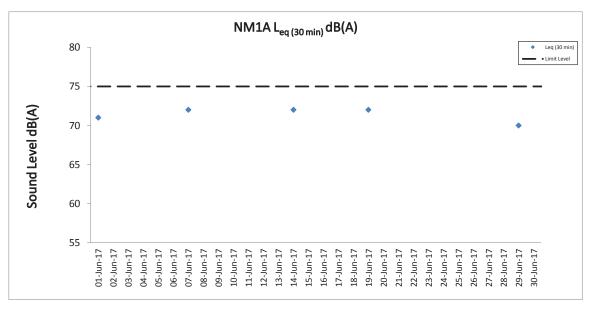
Noise Measurement Results

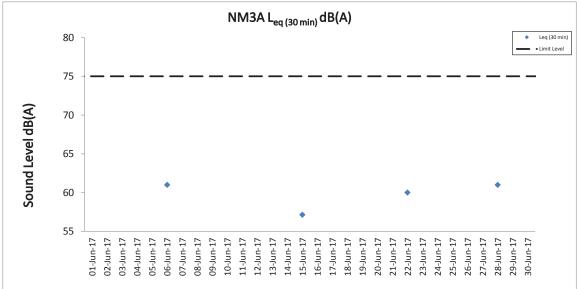
Station: NM6- House No.1 Sha Lo Wan

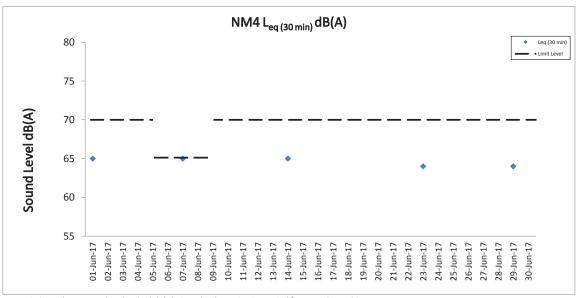
D-4-	144 41	T '	Measured	Measured	1 4D/A)
Date	Weather	Time	L ₁₀ dB(A)	L ₉₀ dB(A)	L _{eq(30mins)} dB(A)
08-Jun-17	Sunny	09:40	64.0	54.5	
08-Jun-17	Sunny	09:45	60.0	54.0	
08-Jun-17	Sunny	09:50	63.5	53.5	62
08-Jun-17	Sunny	09:55	63.5	54.0	62
08-Jun-17	Sunny	10:00	60.0	51.0	
08-Jun-17	Sunny	10:05	62.5	52.0	
12-Jun-17	Sunny	09:38	64.0	51.5	
12-Jun-17	Sunny	09:43	68.0	52.0	
12-Jun-17	Sunny	09:48	66.0	51.5	62
12-Jun-17	Sunny	09:53	68.0	52.5	02
12-Jun-17	Sunny	09:58	73.5	56.0	1
12-Jun-17	Sunny	10:03	71.5	61.5	
22-Jun-17	Fine	09:40	75.5	52.5	
22-Jun-17	Fine	09:45	73.0	51.5	
22-Jun-17	Fine	09:50	73.5	53.5	70
22-Jun-17	Fine	09:55	74.5	51.5	70
22-Jun-17	Fine	10:00	72.5	51.0	
22-Jun-17	Fine	10:05	66.5	49.0	
26-Jun-17	Sunny	09:43	73.5	55.0	
26-Jun-17	Sunny	09:48	76.5	56.6	
26-Jun-17	Sunny	09:53	72.5	55.0	70
26-Jun-17	Sunny	09:58	71.0	55.5] /0
26-Jun-17	Sunny	10:03	72.0	56.5	
26-Jun-17	Sunny	10:08	73.5	53.5	

Remarks:

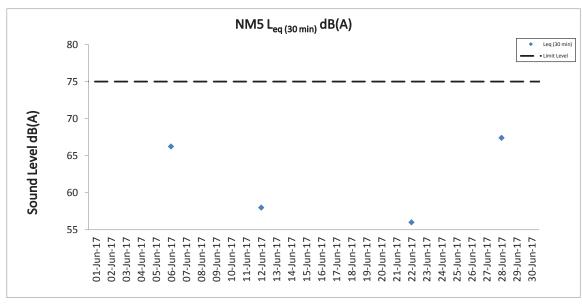
⁺³dB (A) correction was applied to free-field measurement.

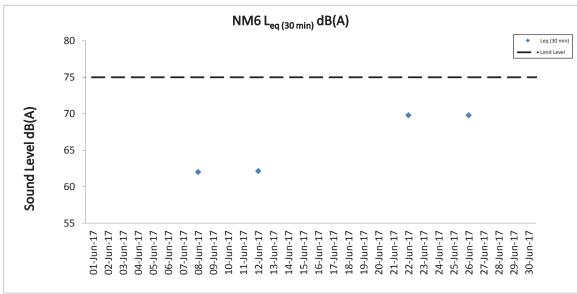






Note: Limit Level at NM4 reduced to 65 dB(A) during school examination period from 5 to 9 June 2017.





Mott MacDonald	I Expansion of Ho	na Konc	ı International	Airport into a	Three-Runway	System

1

Water Quality Monitoring Results

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

vater Quai		oring Resu			01 June 17 during Mic	Current	ue	1		T			I DO S	aturation	Dissolved	I		Suspende	1 Solids IT	otal Alkalinit	v		Chrom	nium	
Monitoring	Weather	Sea	Sampling	Water	Sampling Depth (m)	Speed	Current	Water Te	mperature (°C)	pH	Sal	nity (ppt)	500	(%)	Oxygen	Turbidity(NTU)	(mg/		(ppm)	Coordinate HK Grid	Coordinate HK Grid	(μg/l		lickel (µg.
Station	Condition	Condition	Time	Depth (m)	Camping Depart (III)	(m/s)	Direction	Value	Average	Value Ave	rage Value	Average	Value	Average	Value DA	Value	DA	Value	DA	Value DA	(Northing)	(Easting)	Value	DA Va	alue D
					Surface 1.0 1.0	0.7	38 38	27.6 27.6	27.6	8.1	21.7	21.7	114.6 114.6	114.6	8.0	3.6 3.6		6 7		73 74			<0.2	2	2.2
C1	Cloudy	Rough	11:16	8.5	Middle 4.3	0.6	32	27.5	27.5	8.1	22.3	22.3	107.5	107.5	7.5	3.9	4.0	7	6	75 75	815610	804255	< 0.2	<0.2	2.3
-	,				4.3	0.6	34 347	27.5 27.3		8.1	22.3		107.4 98.6		7.5 6.8	3.9 4.4		6	- H	75 77			<0.2	2	2.3
					7.5	0.4	319	27.3	27.3	8.0	25.3	24.6	100.0	99.3	6.9	4.4		5		77			<0.2	2	2.2
					Surface 1.0 1.0	0.5 0.5	350 359	27.8 27.8	27.8	8.0	19.3	19.3	91.3 91.3	91.3	6.4	3.8		6	-	75 75			<0.2	3	3.1
C2	Cloudy	Rough	12:36	12.3	Middle 6.2 6.2	0.2	6	6 27.7 6 27.6	27.7	8.0	19.4		88.5 88.4	88.5	6.3	2.7 2.8	3.2	4 5	5	76 77	825688	806944	<0.2	<0.2	2.8 3.1
					Bottom 11.3	0.3	339	27.5	27.5	8.0	22.1	22.1	90.1	90.1	6.3	2.9		7		78			< 0.2	3	3.0
					11.3	0.4	312 304	27.5 27.5		8.0	22.1		90.1		6.4	2.9		5 5		78 77			<0.2		3.2 2.4
					Surface 1.0	0.4	310	27.5	27.5	8.0	20.2	20.2	90.3	90.3	6.4	2.5		4		77			< 0.2	2	2.8
C3	Cloudy	Moderate	10:36	13.1	Middle 6.6 6.6	0.3	269 274	27.1 8.0 23.3		88.5 88.5	88.5	6.2	3.9 3.9	3.7	5 3	5 78	80	822118	817797	<0.2	20.2	2.5 2.7			
					Bottom 12.1 12.1	0.2	271 284	27.0 27.0	27.0	8.0	27.2		88.7 88.7	88.7	6.1 6.1	4.6 4.6		7 5	-	80			<0.2	2	2.6 2.5
					Surface 1.0	0.5	27	27.8	27.8	8.0	22.4	22.4	103.6	103.6	7.2	3.1		4		73			<0.2	1	1.8
IM1	01	Davida	11:31	7.7	1.0 Middle 3.9	0.5	27 25	27.8 27.7		8.0	22.4		103.6 100.8		7.2 7.1	3.1	3.5	4	5	74 75 75	040000	806454	<0.2		1.7
IIVI I	Cloudy	Rough	11:31	7.7	3.9	0.6	27 358	27.7 27.5	27.7	8.0	22.5		100.8 98.9	100.8	7.0 6.9	3.4 4.0	3.5	6 5	5	76 76	818339	806454	<0.2	1	1.8 1.8
					6.7	0.4	329	27.5	27.5	8.0	23.1	23.1	98.9	98.9	6.9	4.0		4		77			<0.2	1	1.7
	Cloudy	Rough			Surface 1.0 1.0	0.7	33 34	27.7 27.7	27.7	8.0	20.4		103.5	103.5	7.3	4.3 4.3		7 5	-	73 74			<0.2	1	1.8
IM2			11:38	8.6	Middle 4.3	0.7	25	27.6	27.6	8.0	22.4	22.4	99.5	99.5	6.9	5.5	5.2	5	5	75	818846	806212	< 0.2	-0.2	1.8
					4.3 Bottom 7.6	0.7	26 8	27.6 27.4	27.4	8.0	22.4	24.0	99.5 97.7	97.7	6.9 6.8 6.8	5.5 5.9		4	-	76 77			<0.2	1	1.8
					7.6	0.6	8 45	27.4 27.7		8.0	24.0	1	97.7 97.7		6.8	5.9 3.7		4		77 73			<0.2	1	1.8
	Cloudy				Surrace 1.0	0.5	49	27.7	27.7	7.9	.9 20.1	20.1	97.7	97.7	6.9	3.3		5		74			< 0.2	_1	2.0 1.7
IM3		Rough	11:46	8.7	Middle 4.4 4.4	0.5 0.6	18 18	27.4 27.4	27.4	8.0	21.4		98.4 98.4	98.4	6.9	4.1 4.1	4.2	4 6	5	75 76	819427	806036	<0.2	<0.2	1.9 2.0 2.0
					Bottom 7.7 7.7	0.5 0.6	359 330	27.5 27.6	27.6	8.0	23.9		99.7 99.4	99.6	6.9 6.9	4.9 4.9		6 5		77 76			<0.2	2	2.0
					Surface 1.0	0.3	40	27.8	27.8	8.0	19.8	19.8	99.3	99.3	7.0	5.8		8		74			<0.2	2	2.0
	.	Rough		0.0	1.0	0.3	40 7	27.8 27.2		8.0	19.8		99.3 92.1		7.0 6.5 6.8	5.8 7.7		8	_	73 75 ₇₅			<0.2	2	2.0
IM4	Cloudy		11:57	8.0	Middle 4.0	0.3	7	27.2	27.2	8.0	22.0	22.0	92.0	92.1	6.5	7.8	7.9	6	7	75 75 77	819565	805028	< 0.2	<0.2	2.2
					Bottom 7.0 7.0	0.2	352 357	26.9 26.9	26.9	8.0	27.3	27.3	91.4 91.4	91.4	6.3 6.3	10.0		5 6		77			<0.2	2	2.0
					Surface 1.0 1.0	0.4	26 26	27.6 27.6	27.6	8.0	20.1		98.0 98.0	98.0	6.9	4.2 4.2		7 5		74 74			<0.2	2	2.2
IM5	Cloudy	Rough	12:07	7.1	Middle 3.6	0.4	8	27.4	27.4	8.0	22.1		94.8	94.8	6.6	4.9	5.6	6	6	76	820576	804914	< 0.2	.0.2	2.2
	,				3.6 Bottom 6.1	0.5	8 1	27.4 27.2	27.2	8.0	22.1		94.8 92.8	92.8	6.6	4.9 7.6		4 5	-	75 77			<0.2	2	2.2
					6.1	0.4	1 24	27.2 27.7		8.0	24.9		92.8 97.9		6.4	7.6 4.4		6 4		77 74			<0.2	2	2.2
					Surface 1.0	0.6	24	27.7	27.7	8.0	20.2	20.2	97.9	97.9	6.9	4.4		6		74			< 0.2	2	2.4
IM6	Cloudy	Rough	12:14	6.6	Middle 3.3 3.3	0.4	21 21	27.5 27.5	27.5	8.0	21.3		93.4	93.4	6.6	4.8 4.8	4.9	4	4	75 75	821076	805817	<0.2	<0.2	3.0 2.8
					Rottom 5.6	0.4	9	27.3	27.3	8.0	23.7	22.7	92.5	92.5	6.4	5.5		3		77			< 0.2	2	2.3
					5.6 Surface 1.0	0.4	9 40	27.3 27.8	27.8	8.0	23.7		92.5 99.4	98.9	7.0	5.5 4.7		5 3		77 74			<0.2	2	2.0
					1.0	0.6	42 20	27.8 27.5		8.0	20.9		98.3		6.9 6.5	4.2 5.1		4		74			<0.2	2	2.6
IM7	Cloudy	Rough	12:22	8.5	Middle 4.3	0.5	21	27.5	27.5	8.0	22.6	22.6	92.7 92.7	92.7	6.5	5.1	5.3	3	4	75 76	821356	806825	<0.2	<0.2	2.4 2.5
					Bottom 7.5 7.5	0.3	0.3 357 27.3 0.3 328 27.3 27.3 8.0 8.0 23.3 23.3 23.3 91.8 91.8 6.4 6.4 6.4 6.4	6.3		4 6	F	77 76			<0.2	2	2.5 2.5								
					Surface 1.0	0.4	11	27.8	27.8	8.1	21.0	21.0	96.9	96.9	6.8	3.6		7		75			<0.2	2	2.4
IM8	Cloudy	Pough	12:12	0.7	1.0 Middlo 4.4	0.4	12 12	27.8 27.6	27.6	8.1	21.0	21.1	96.9 92.4	92.4	6.8 6.5 6.7	3.6 3.8	4.4	6 5	-	75 76 77	821699	807844	<0.2	.0.2	2.6
IIVIO	Cloudy	Rough	12.12	8.7	4.4		12	27.6 27.3		8.1	21.1		92.4 92.5		6.5	3.8 5.8	4.4	5 3	5 76 77 78 78	77	021099	00/044	<0.2	<0.2	2.5
			1		Bottom 7.7		-	21.0	27.3	0.1 /	1.1	22.8	1 32.3	92.5	6.5			J		, 0	1	1	<0.2		2.4

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Qua Water Qua			lts on		01 June 17	during Mid-	Flood Tie	de																			
Monitoring	Weather	Sea	Sampling	Water		-	Current Speed	Current	Water Ten	mperature (°C)	р	Н	Salir	ity (ppt)		aturation %)	Disso		Turbidity(NTU) S	uspended ((mg/L)	Solids To	tal Alkalinity (ppm)	Coordinate	Coordinate	Chromiur (µg/L)	m Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling De	epth (m)	(m/s)	Direction	Value	Average	Value	Average	Value	Average			Value	DA	Value	DA		DA V	alue DA	HK Grid (Northing)	HK Grid (Easting)	Value D	DA Value DA
					Surface	1.0	0.3	12 12	27.7 27.7	27.7	8.0	8.0	21.1	21.1	92.7 92.7	92.7	6.5 6.5		3.6 3.6	F	7 5		75 75			<0.2 <0.2	2.5
IM9	Cloudy	Rough	12:02	8.6	Middle	4.3	0.3	17	27.6	27.6	8.0	8.0	21.2	21.2	92.6 92.6	92.6	6.5	6.5	5.2	4.3	3	6	76 77	822079	808797	<0.2	0.2 2.7 2.6
					Bottom	4.3 7.6	0.3	2	27.6	27.6	8.0	8.0	21.2	21.2	93.2	93.2	6.5	6.5	4.0		4		78			<0.2	2.5
						7.6	0.1	2 359	27.6 27.6		8.0		21.2		93.2 89.5		6.5	0.0	4.0 4.6		6		78 75			<0.2 <0.2	2.4
					Surface	1.0 4.0	0.4	330 338	27.6 27.6	27.6	8.0	8.0	20.8	20.8	89.5 88.7	89.5	6.3 6.2	6.3	4.6 5.8		8		75 77			<0.2	2.8
IM10	Cloudy	Rough	11:53	7.9	Middle	4.0	0.3	349 343	27.6 27.4	27.6	8.0	8.0	21.1	21.1	88.7	88.7	6.2		5.8	5.2	6	0	77 78 79	822251	809820	<0.2 <0.2	0.2 2.4 2.6
					Bottom	6.9	0.3	316	27.4	27.4	8.0	8.0	22.7 22.7	22.7	91.2 91.2	91.2	6.4 6.4	6.4	5.2		5		78			<0.2	2.6
					Surface	1.0	0.3	-	27.7 27.7	27.7	8.1	8.1	20.7	20.7	93.9	93.9	6.6	6.6	6.1 6.1		7		76 75			<0.2	2.6
IM11	Cloudy	Rough	11:34	8.8	Middle	4.4	0.3	315 334	27.7 27.7	27.7	8.1	8.1	20.8	20.8	93.4 93.4	93.4	6.6	0.0	6.5 6.5	6.7	7	7	77 77	821519	810530	<0.2	0.2 2.3 2.6
					Bottom	7.8 7.8	0.3	294 322	27.5 27.5	27.5	8.0	8.0	21.9	21.9	93.3 93.3	93.3	6.5	6.5	7.5 7.5		8		78 79			<0.2	2.9
					Surface	1.0	0.3	325	27.7	27.7	8.0	8.0	20.5	20.5	94.1	94.1	6.6		4.9		5		76			<0.2	2.6
IM12	Cloudy	Rough	11:25	9.3	Middle	1.0 4.7	0.3	346 309	27.7 27.5	27.5	8.0	8.0	20.5 22.1	22.1	94.1 90.4	90.4	6.6	6.5	4.9 5.8	6.3	6 8	6	76 77 78	821152	811534	<0.2	2.8 2.6 2.7
IIVIIZ	Cloudy	riougii	11.23	3.0		4.7 8.3	0.3	324 307	27.5 27.2	27.2	8.0	8.0	22.1	24.5	90.4 87.9	87.9	6.3	6.1	5.8 8.1	0.0	7		79 79	021132	011304	<0.2	2.8
					Bottom	8.3 1.0	0.3	318 332	27.2 27.7		8.0		24.5 19.2		87.9 90.3		6.1	6.1	8.1 5.3		6 5		79 75			<0.2	2.8 3.1
					Surface	1.0	0.2	352	27.7	27.7	8.0	8.0	19.2	19.2	90.3	90.3	6.4	6.4	5.3		4		76			<0.2	2.8
SR2	Cloudy	Moderate	11:03	4.8	Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	7.4	-	4	- /8	821462	814150	- <0	0.2 3.0
					Bottom	3.8	0.2	30 32	27.3 27.3	27.3	8.0	8.0	21.7	21.7	88.6 88.6	88.6	6.2	6.2	9.4 9.4	-	4		80 79			<0.2	3.0
					Surface	1.0	0.3	21 21	27.8 27.8	27.8	8.1	8.1	20.9	20.9	96.7 96.7	96.7	6.8		3.6 3.6		5		-			-	-
SR3	Cloudy	Rough	12:17	9.3	Middle	4.7	0.5 0.5	12 13	27.8 27.8	27.8	8.1 8.1	8.1	20.9	20.9	94.5 94.5	94.5	6.6	6.7	4.5 4.5	5.0	2	4	-	822141	807553	-	
					Bottom	8.3 8.3	0.3	349	27.5 27.5	27.5	8.1	8.1	21.5	21.5	90.1	90.1	6.3	6.3	7.0		4 3		-			-	-
					Surface	1.0	0.4	351 280	27.6	27.6	8.0	8.0	22.1	22.1	98.6	98.6	6.3		3.6		3		-			-	-
SR4A	Cloudy	Moderate	10:54	8.3	Middle	1.0 4.2	0.1	300 283	27.6 27.5	27.5	8.0	8.0	22.1	22.3	98.6 95.1	95.1	6.9	6.8	3.6 4.4	4.4	5 4	_	-	817177	807804	-	-
SH4A	Cloudy	Moderate	10.34	0.5		4.2 7.3	0.1	291 76	27.5 27.2		8.0		22.3 25.1		95.1 92.8		6.6 6.4		4.4 5.2	4.4	3	+	-	017177	007004	-	-
					Bottom	7.3 1.0	0.3	79 340	27.2 27.7	27.2	8.0 7.9	8.0	25.1 22.6	25.1	92.8 97.9	92.8	6.4	6.4	5.2 3.3		4 5		-			-	-
					Surface	1.0	0.1	313	27.7	27.7	7.9	7.9	22.6	22.6	97.8	97.9	6.8	6.8	3.3		4		-			-	-
SR5A	Cloudy	Moderate	10:34	5.4	Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	3.6	-	4	-	816586	810708	-	
					Bottom	4.4	0.1	326 328	27.5 27.5	27.5	7.9	7.9	23.0	23.0	95.8 95.8	95.8	6.7	6.7	3.8		5		-			-	-
					Surface	1.0	0.0	197 216	27.6 27.6	27.6	7.8	7.8	20.7	20.7	92.3 92.3	92.3	6.5 6.5		4.8 4.8	-	6		-			-	-
SR6	Cloudy	Moderate	10:06	4.8	Middle	-	-	-	-	-	-	-	-	-	-	-	-	6.5	-	5.7	-	6	-	817901	814657		
					Bottom	3.8	0.1	87	27.6	27.6	7.8	7.8	20.7	20.7	93.5	93.6	6.6	6.6	6.5		5		-			-	-
					Surface	3.8 1.0	0.1	94 147	27.6 27.8	27.8	7.8	7.9	20.7 19.6	19.6	93.6 94.6	94.6	6.6		6.5 1.0		7		-			-	-
SR7	Claudi	Moderate	09:59	15.2	Middle	1.0 7.6	0.0	151 171	27.8 27.1	27.1	7.9 8.0		19.6 25.2	25.2	94.6 88.6		6.7	6.4	1.0	1.7	3	4	-	823635	823729	-	-
SH/	Cloudy	woderate	09:59	15.2		7.6 14.2	0.2	179 150	27.1 26.7		8.0	8.0	25.2 28.2		88.6 87.1	88.6	6.1		1.9	1.7	3	4	-	823635	823729		-
					Bottom	14.2	0.1	162	26.7	26.7	8.0	8.0	28.2	28.2	87.1	87.1	6.0	6.0	2.3		3		-			-	-
					Surface	1.0	0.1	307 312	27.7	27.7	8.0	8.0	19.9 19.9	19.9	95.0 95.0	95.0	6.7	6.7	3.7	E	5		-				-
SR8	Cloudy	Moderate	11:19	5.7	Middle	-	-	-	-	-	-		-	-	-		-		-	4.7	-	4	-	820403	811590	-	
					Bottom	4.7	0.1 0.1	272 276	27.5 27.5	27.5	8.0	8.0	20.7	20.7	94.9 94.9	94.9	6.7	6.7	5.6 5.7		4		-			-	-
A. Donth Aug																											

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined: Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Quality Monitoring Results on 01 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Turbidity(NTU) Sampling Water Water Temperature (°C) Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (maga) (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 27.8 1.0 0.6 109 8.2 124 5 5.8 21.3 87 19 74 -n 2 1.5 Surface 27.8 21.4 1.0 0.6 113 27.8 8.2 21.4 122.9 8.6 6.0 22 74 <0.2 1.6 3.4 0.6 135 27.6 8.2 21.9 116.6 8.1 6.1 11 75 <0.2 1.5 C1 6.7 27.6 8.2 21.9 116.2 6.3 815631 804230 1.5 Cloudy Rough 18:34 Middle 14 75 3.4 0.6 145 27.6 8.2 21.9 115.8 8.1 6.2 10 75 <0.2 1.5 5.7 76 <0.2 0.5 198 27.6 8.1 22.3 6.8 10 1.4 Botton 110.4 7.6 77 5.7 0.6 205 27.6 8.1 22.5 109.2 6.9 10 <0.2 1.5 1.0 69 28.0 8.0 20.0 97.8 6.9 3.0 75 <0.2 2.5 97.8 28.0 8.0 20.0 Surface 20.0 75 2.4 1.0 0.8 71 28.0 8.0 97.8 6.9 3.0 6 <0.2 6.2 0.6 60 27.8 8.0 20.1 90.8 6.4 3.4 77 77 <0.2 2.6 27.8 8 825696 806943 C2 Cloudy Rough 16:51 12.4 Middle 8.0 20.1 90.8 77 2.5 6.2 8.0 0.6 64 20.1 90.8 6.4 3.4 8 27.8 11.4 0.4 68 27.6 7.9 21.3 91.0 6.4 2.3 6 78 <0.2 2.5 Bottom 7.9 21.3 91.0 11.4 0.4 71 27.6 79 21.3 91.0 6.4 2.3 78 -02 2.5 1.0 0.3 312 27.6 8.0 20.2 6.4 5.2 78 <0.2 2.4 90.9 Surface 27.6 8.0 20.2 90.9 1.0 0.3 27.6 8.0 20.2 90.9 6.4 5.2 77 <0.2 2.1 6.5 0.4 4.4 9 78 <0.2 2.1 27.2 8.0 23.6 6.2 C3 27.2 8.0 23.6 88.7 822124 817807 22 18:54 13.0 Middle Cloudy Moderate 88.7 79 2.0 6.5 270 27.2 8.0 23.6 6.2 4.4 <0.2 0.4 12.0 8.0 80 2.2 0.2 287 27.2 27.2 89.2 89.2 6.1 2.6 <0.2 26.9 9 Bottom 26.9 8.0 27.2 89.2 0.2 309 26.9 80 <0.2 22 1.0 0.8 105 27.8 8.2 21.5 125.4 8.7 4.5 73 <0.2 1.9 27.8 8.2 21.5 125.4 Surface 1.0 0.9 110 27.8 8.2 21.5 125.4 8.7 4.5 6 73 <0.2 1.8 2.1 3.8 0.9 27.8 4.8 10 75 <0.2 818366 806477 IM1 Cloudy Rough 18:04 7.5 Middle 27.8 82 21.5 121 1 20 21.5 75 <0.2 3.8 1.0 100 27.8 8.2 121.1 8.4 4.8 12 77 6.5 1.0 89 8.2 5.3 13 < 0.2 2.2 27.8 21.7 116.2 8.1 Botton 27.8 8.2 21.7 116.1 8.2 21.7 2.0 6.5 8.1 5.5 11 76 1.1 89 27.8 116.0 < 0.2 1.0 0.7 79 27.9 8.2 21.4 8.5 4.3 73 73 <0.2 2.0 Surface 8.2 21.4 122.5 8.2 2.0 1.0 0.7 83 27.9 21.4 8.5 4.3 <0.2 4.0 0.7 66 27.8 8.2 21.7 118.6 8.3 4.6 7 75 <0.2 2.0 21.7 IM2 17:55 8.0 Middle 27.8 8.2 118.6 4.6 75 818842 806192 2.0 Cloudy Rough 4.0 0.8 27.8 8.2 118.6 4.6 75 <0.2 2.0 7.0 0.6 149 27.8 8.2 21.9 21.9 115.3 8.0 4.8 76 <0.2 2.0 Bottom 27.8 8.2 115.3 8.0 7.0 8.2 21.9 4.8 77 <0.2 2.0 0.6 161 27.8 1.0 8.1 74 <0.2 0.8 55 27.8 21.6 108.0 7.5 7.5 3.3 2.6 27.8 21.6 107.9 Surface 8.1 73 1.0 0.8 58 27.8 8.1 21.6 107.8 3.3 8 2.3 41 0.8 64 27.8 8.1 21.7 105.7 7.4 3.5 8 76 <0.2 2.4 IM3 Rough 17:43 8.2 Middle 21.7 819420 806029 Cloudy 4.1 0.8 27.8 8.1 7.4 3.5 76 <0.2 2.4 77 <0.2 2.5 0.9 8.0 22.1 103.4 7.2 3.9 Bottom 27.7 8.0 22.1 103.4 7.2 7.2 77 2.4 1.0 27.7 8.0 22.1 103.4 8 <0.2 1.0 7.8 7.7 73 73 <0.2 2.2 0.6 100 27.9 8.1 5.0 19.9 111.6 Surface 28.0 8.1 19.9 111.0 1.0 104 8.1 19.9 0.6 28.0 110.3 5.0 8 4.0 0.6 97 27.6 8.0 21.5 100.0 7.0 5.5 9 76 < 0.2 2.2 IM4 17:33 Middle 21.5 100.0 819564 805024 2.2 Cloudy Rough 8.0 4.0 0.7 101 27.6 8.0 21.5 100.0 7.0 5.5 10 76 <0.2 2.3 7.0 0.6 146 27.3 8.0 25.1 6.5 10 76 <0.2 2.2 Bottom 27.3 8.0 25.1 96.9 7.0 0.7 27.3 8.0 25.1 96.9 6.7 6.1 <0.2 2.1 1.0 0.7 27.8 15 73 2.4 8.1 19.4 <0.2 19.4 108.3 Surface 27.8 8.1 1.0 0.7 73 27.8 8.1 19.4 107.9 7.6 4.8 16 73 <0.2 2.2 76 76 <0.2 1.8 3.5 0.7 84 27.4 8.0 21.8 21.8 96.7 96.6 6.8 5.8 5.7 IM5 Rough 17:19 7.0 Middle 27.4 8.0 96.7 820552 804904 2.1 Cloudy 0.7 8.0 6.8 3.5 88 27.4 8 94.3 77 6.0 0.5 133 27.1 8.0 25.9 6.5 6.2 8 <0.2 2.0 Bottom 27.1 8.0 25.9 94.3 6.0 0.5 145 27.1 8.0 25.9 94.3 6.5 6.2 9 77 <0.2 2.0 27 9 8.0 19.7 105.7 Surface 1.0 0.6 27.9 8.0 19.7 105.7 7.4 4.2 73 <0.2 2.0 8 3.2 0.4 122 27.4 8.0 22.3 93.1 6.5 4.9 6 76 <0.2 1.9 93.1 821075 805847 IM6 Cloudy Rough 17:06 6.4 Middle 27.4 8.0 22.3 75 2.0 76 3.2 0.4 129 27.4 8.0 22.2 6.5 4.9 6 < 0.2 93.0 77 5.4 0.4 164 27.3 8.1 23.6 91.6 6.4 5.5 5 <0.2 1.9 23.6 91.6 Bottom 27.3 8.1 91.6 77 5.4 0.4 175 27.3 8.1 23.6 6.4 5.5 <0.2 21 1.0 0.7 27.9 8.0 20.6 101.0 4.1 73 <0.2 2.1 Surface 27.9 8.0 20.6 101.0 1.0 0.7 27.9 8.0 20.6 101.0 4.1 74 <0.2 2.0 4.0 0.6 27.6 8.0 22.6 6.6 4.5 5 76 <0.2 2.1 95.3 IM7 16:51 8.0 22.6 95.3 4.7 75 821348 806827 2.1 Cloudy Rough 8.0 Middle 27.6 4.0 8.0 22.6 95.3 6.6 4.5 75 <0.2 2.1 0.6 81 27.6 77 7.0 0.5 8.0 5.6 5.6 <0.2 2.1 27.4 23.1 91.6 6.4 4 Botton 27.4 8.0 23.1 91.6 23.1 91.6 6.4 < 0.2 7.0 0.5 161 27.4 4 2.3 1.0 0.7 72 28.0 8.1 20.6 4.4 <0.2 2.2 Surface 28.0 8.1 20.6 106.4 1.0 0.8 28.0 8.1 20.6 106.4 7.4 4.4 75 <0.2 2.0 3.8 0.5 8.1 21.5 99.9 7.0 76 <0.2 2.4 821681 807852 IM8 Cloudy Rough 17:23 8.6 Middle 27.7 8.1 21.5 99.9 2.3 77 2.3 4.3 0.5 96 27.7 8.1 21.5 99.9 7.0 3.8 9 <0.2 78 2.3 7.6 0.2 101 27.5 8.1 22.9 98.2 6.8 4.6 11 < 0.2 27.5 8.1 22.9 Rottom 98.2 6.8 7.6 103 8.1 79 98.2 0.2 27.5 22.9 6.8 4.6 < 0.2

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Qua Water Qua			lts on		01 June 17	during Mid-E	Ebb tide																				
Monitoring	Weather	Sea	Sampling	Water		_	Current Speed	Current	Water Te	mperature (°C)	pl	Н	Salin	ity (ppt)		aturation %)	Dissol		Turbidity(NTU) S	uspended (ma/L		Total Alkalinit	Coordinate		Chromium (µg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Dep	th (m)	(m/s)	Direction	Value	Average	Value /	Average	Value	Average		,	- 1	DA	Value	DA	Value	DA	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	Value DA
					Surface	1.0	0.5 0.5	66 66	28.1	28.1	8.1 8.1	8.1	21.0	21.0	105.4 105.4	105.4	7.3 7.3		3.7 3.7		7		75 75			<0.2	2.1
IM9	Cloudy	Rough	17:30	8.2	Middle	4.1	0.4	93	27.8	27.8	8.1	8.1	21.5	21.5	98.0 97.9	98.0	6.8	7.1	5.0	5.0	7	7	78 77	822088	808792	<0.2	2.2
					Bottom	7.2	0.3	65 67	27.6	27.6	8.1	8.1	21.9	21.9	97.1 97.1	97.1	6.8	6.8	6.2		5		79 78			<0.2	2.2
					Surface	1.0	0.5	70 76	28.1	28.1	8.1	8.1	21.3	21.3	105.3	105.3	7.3		2.9		4 4		76 76			<0.2	2.4
IM10	Cloudy	Rough	17:37	8.0	Middle	4.0	0.6	81 82	27.9	27.9	8.1	8.1	21.5	21.5	100.3	100.3	7.0	7.2	4.2	4.1	5	4	78 78 78	822228	809850	<0.2	2.2
					Bottom	7.0 7.0	0.1	94 98	27.8	27.8	8.1	8.1	22.0 22.0	22.0	100.8	100.8	7.0	7.0	5.2 5.2		4	ŀ	78 79			<0.2	2.2
					Surface	1.0	0.5	73 79	28.0	28.0	8.1	8.1	21.6	21.6	103.5	103.5	7.2		5.2 5.2		8 7		76 77			<0.2	2.0
IM11	Cloudy	Rough	17:47	9.3	Middle	4.7	0.4	88 94	27.9 27.8	27.9	8.1	8.1	21.7	21.7	99.8 99.6	99.7	6.9	7.1	4.8	4.9	7	9	78 78	821508	810530	<0.2	2 2.0 2.0
					Bottom	8.3 8.3	0.2	69 75	27.7 27.7	27.7	8.1	8.1	22.1 22.1	22.1	99.5 99.5	99.5	6.9 6.9	6.9	4.6 4.6		11		79 79			<0.2 <0.2	2.0
					Surface	1.0	0.4	84 90	28.1 28.1	28.1	8.1	8.1	21.6 21.6	21.6	105.4 105.4	105.4	7.3 7.3	7.1	7.7 7.7		14		76 77			<0.2	1.8
IM12	Cloudy	Rough	18:06	8.1	Middle	4.1	0.4	77 80	27.8	27.8	8.1	8.1	21.9	21.9	97.3 97.3	97.3	6.8		7.1	7.4	15	14	78 78	821181	811532	<0.2	2.6
					Bottom	7.1 7.1	0.2	65 67	27.4 27.4	27.4	8.0	8.0	23.9	23.9	98.1 98.1	98.1	6.8	6.8	7.5 7.5		14 13		79 77			<0.2	2.4
					Surface	1.0	0.5 0.5	61 64	28.0 28.0	28.0	8.1	8.1	21.1	21.1	102.0 101.8	101.9	7.1 7.1	7.1	2.2		9		78 77			<0.2	2.9
SR2	Cloudy	Moderate	18:27	4.9	Middle	-	-	-		-	-	-	-	-	-	-	-		-	2.2	- 4	6	79	821463	814176	- <0.2	-
					Bottom	3.9 3.9	0.2	62 67	27.8 27.8	27.8	8.0	8.0	21.5	21.5	98.9	98.9	6.9	6.9	2.2		4		79 80			<0.2 <0.2	2.4
		Rough			Surface	1.0 1.0 4.5	0.7 0.7 0.6	75 78 71	28.1 28.1 27.8	28.1	8.1	8.1	19.9	19.9	110.0	110.0	7.7	7.4	4.5 4.5 4.1		6		-			-	-
SR3	Cloudy		17:16	9.0	Middle	4.5 4.5 8.0	0.7	75 84	27.8 27.7	27.8	8.1 8.1 8.1	8.1	20.6 20.6 22.5	20.6	101.8 101.8 103.4	101.8	7.1 7.1 7.2		4.1 4.1 8.5	5.7	6 8 6	7		822145	807578	-	-
					Bottom	8.0 1.0	0.2	84 96	27.7	27.7	8.1	8.1	22.5	22.5	103.4	103.4	7.2	7.2	8.5 5.8		6		-	1		-	
					Surface	1.0	0.4	96 101	27.9 27.8	27.9	8.1	8.1	22.5	22.5	105.7	105.7	7.3	7.3	5.8		7		-			-	-
SR4A	Cloudy	Moderate	18:51	7.7	Middle	3.9 6.7	0.4	110	27.8 27.7	27.8	8.1	8.1	22.6	22.6	103.3	103.4	7.2		6.7	6.8	7	8		817174	807823	-	-
					Bottom	6.7	0.3	145	27.7	27.7	8.0	8.0	23.2	23.2	99.9	99.9	6.9	6.9	7.8 4.5		10		-			-	
					Surface	1.0	0.3	132	28.3	28.3	8.1	8.1	22.9	22.9	108.3	108.3	7.4	7.4	4.5		6		-			-	-
SR5A	Cloudy	Moderate	19:06	4.8	Middle	3.8	0.3	130	27.7	-	8.0	-	23.4	-	102.8	-	7.1		4.9	4.7	7	6	-	816591	810706	-	-
					Bottom	3.8	0.3	138 152	27.7	27.7	8.0	8.0	23.4	23.4	102.8	102.8	7.1	7.1	4.9		5		-	1		-	
					Surface	1.0	0.2	155	28.0	28.0	8.1	8.1	21.4	21.4	101.3	101.3	7.0	7.0	3.8		6	-	-			-	-
SR6	Cloudy	Moderate	19:28	4.3	Middle	3.3	- 0.2	163	27.7	-	8.0	-	21.8	-	99.0	-	6.9		5.1	4.5	7	7		817903	814664	-	
					Bottom	3.3	0.2	168 164	27.7	27.7	8.0	8.0	21.8	21.8	99.0	99.0	6.9	6.9	5.1		7 3		-	1		-	
					Surface	1.0	0.1	175 162	27.7 27.0	27.7	8.0	8.0	19.8	19.8	93.2 93.2 87.7	93.2	6.6	6.4	1.5		5	ļ	-			-	-
SR7	Cloudy	Moderate	19:25	16.1	Middle	8.1 15.1	0.1	167	27.0 27.0 26.8	27.0	8.0	8.0	25.4 25.4 27.2	25.4	87.7 89.0	87.7	6.1		1.4	1.4	3 4	4	-	823652	823749	-	-
					Bottom	15.1	0.0	205 221	26.8	26.8	8.0	8.0	27.2	27.2	89.0 96.2	89.0	6.1	6.1	1.4		6 8		-			-	-
0.00			10.11		Surface	1.0	0.1	227	27.8	27.8	8.1	8.1	21.9	21.9	96.2	96.2	6.7	6.7	5.0		6	_	-	00040-	044577	-	-
SR8	Cloudy	Moderate	18:14	5.2	Middle	4.2	- 0.1	229	27.5	-	8.0	-	23.1	-	95.9	-	6.7		- 5.1	5.1	- 6	7	-	820408	811578	-	-
DA: Denth-Ave					Bottom	4.2	0.1	243	27.5	27.5	8.0	8.0	23.1	23.1	95.9	95.9	6.7	6.7	5.1		8		-			-	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined: Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Qua			lts on		04 June 17	during Mid-l	Flood Tie	de																		
Monitoring	Weather	Sea	Sampling	Water	0 " 5		Current Speed	Current	Water Te	emperature (°C)	рН	I	Salin	ity (ppt)		turation %)	Disso		urbidity(l	TU) Suspende (mg/		Total Alkalinit (ppm)	Coordinate		Chromium (µg/L)	n Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Dep	tn (m)	(m/s)	Direction	Value	Average	Value A	verage \	Value	Average	Value	Average	Value	DA V	/alue	DA Value	DA	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value DA
					Surface	1.0	0.6	30	27.2	27.1	7.8		20.1		84.3	84.3	6.0		16.5	9		80			<0.2	1.8
C1	Cloudy	Moderate	15:51	8.1	Middle	1.0 4.1	0.6	31 38	27.0 26.7	26.7	7.8 7.8	7.0	18.9 22.1	22.2	84.3 83.6	83.6	6.0 5.9	6.0	17.1 22.6	22.1	g.	79 77 78	815620	804240	<0.2	.2 1.6 1.7
01	Oloddy	Wioderate	13.51	0.1		4.1 7.1	0.6	38 34	26.7 26.6		7.8		22.2 22.4		83.6 84.2		5.9 5.9		22.3 27.3	7 8	o	77 78	013020	004240	<0.2	1.6
					Bottom	7.1	0.4	34 57	26.6 27.8	26.6	7.8	7.8	22.4	22.4	84.5	84.4	6.0	6.0	27.0	10		77	<u> </u>		<0.2	1.7
					Surface	1.0	0.5 0.5	59	27.8	27.8	7.7	7.7	17.4 17.4	17.4	74.2 73.7	74.0	5.3	4.0	4.7	10		81			<0.2	2.2
C2	Cloudy	Moderate	14:15	11.4	Middle	5.7 5.7	0.5 0.5	68 68	26.0 26.0	26.0	7.7		21.3		61.6 61.5	61.6	4.4		6.3	5.7 12	11	83 83 81	825695	806933	<0.2	.2 2.4 2.2
					Bottom	10.4 10.4	0.3	66 69	25.9 26.0	26.0	7.7	77	22.7	22.6	63.1 63.9	63.5	4.5 4.6	4.0	6.5 5.7	11 9		80 80			<0.2	2.2 1.9
					Surface	1.0	0.4	228	25.4	25.4	7.9	7.0	24.7	24.6	86.4	86.4	6.2		2.2	5		82			<0.2	1.9
						1.0 6.2	0.5	233 220	25.3 23.9		7.9 7.8		24.4		86.3 86.9		6.2		2.4 3.5	6 4		83			<0.2	2.1
C3	Cloudy	Moderate	15:54	12.4	Middle	6.2	0.4	236	23.9	23.9	7.8	7.8	27.5	27.5	86.9	86.9	6.2		3.7	5 5	6	82	822125	817783	<0.2	1.9
					Bottom	11.4	0.4	225 240	23.4 23.5	23.5	7.8	7.8	29.8 29.8	29.8	87.4 87.4	87.4	6.2	6.2	3.6	8 10		82 81			<0.2 <0.2	1.9
					Surface	1.0	0.5 0.5	353 325	27.3 27.2	27.3	7.8 7.8		19.4 19.4		84.2 84.4	84.3	6.0		15.2 16.4	8 7		78 79			<0.2	1.9
IM1	Cloudy	Moderate	15:23	7.3	Middle	3.7	0.5	13	26.7	26.7	7.8	7.8	22.0	22.0	83.5 83.5	83.5	5.9	6.0	26.0	22.8 5	6	79 79	818355	806439	<0.2	2 1.7
					Bottom	6.3	0.5 0.5	27	26.7	26.7	7.8	7.8	22.3	22.3	83.8	83.9	5.9	50 2	26.3 26.2	7		80			<0.2	1.7
						6.3 1.0	0.5	28 16	26.7 27.3		7.8	- 	22.2 17.3		84.0		5.9 5.8		9.9	6		79 77	1		<0.2	1.7
					Surface	1.0 3.6	0.6	16 35	27.3 26.9	27.3	7.7 7.8	1.1	17.3 19.8	17.3	81.0 85.7	81.0	5.8 6.1	6.0	10.1	6		79			<0.2	1.7
IM2	Cloudy	Moderate	15:13	7.1	Middle	3.6	0.6	38	26.9	26.9	7.8	7.8	19.8	19.8	85.9	85.8	6.1	- 2	24.3	6	7	78	818870	806185	<0.2	1.8
					Bottom	6.1	0.4	20 20	26.8 26.8	26.8	7.8 7.8		21.9	21.9	89.1 89.3	89.2	6.3		24.0 23.3	7		78 79			<0.2	1.8
					Surface	1.0	0.6	24 24	27.3 27.2	27.3	7.7		16.9 16.7	16.8	79.2 79.9	79.6	5.7 5.8		11.6	9		78 78			<0.2	1.8
IM3	Cloudy	Moderate	15:01	8.0	Middle	4.0	0.5	30	27.0	27.0	7.8	7.8	19.6	19.6	80.7	80.8	5.8	5.0	21.1	10.1	8	77	819401	806004	<0.2	1.8
	,				Bottom	4.0 7.0	0.6	31 36	26.9 26.8	26.8	7.8 7.8	7.0	19.6 21.9	21.0	80.9 79.5	79.5	5.8 5.6	5.6	22.3	8 6		78 77			<0.2	2.1
						7.0 1.0	0.4	37 18	26.8 27.2		7.8 7.8		21.9 16.8		79.4 79.5		5.6 5.8		23.1 14.3	6 8		78 78	1		<0.2	2.1
					Surface	1.0	0.6	19	27.1	27.2	7.8	7.0	16.7	10.0	79.5	79.5	5.8	E 0	14.3	6		78			<0.2	2.0
IM4	Cloudy	Moderate	14:49	7.7	Middle	3.9 3.9	0.5 0.5	20 21	26.9	27.0	7.8	7.8	19.8 19.9	19.9	79.8 79.9	79.9	5.7 5.7	- 2	19.9 22.8	18.6	8	80 79	819581	805054	<0.2	.2 2.3 2.2
					Bottom	6.7	0.4	26 26	26.9 26.9	26.9	7.8		21.9		78.0 77.9	78.0	5.5		20.4 19.6	10		76 78			<0.2	2.2
					Surface	1.0	0.6	27	27.3	27.3	7.7		16.9		78.6	78.9	5.7 5.7		10.4	8 9		80 79			<0.2	2.2
IM5	Cloudy	Moderate	14:38	7.8	Middle	3.9	0.7 0.5	29 23	27.2 27.0	27.0	7.8 7.8	7.8	16.6 19.4	10.2	79.2 79.6	79.6	5.7	5.7	11.5 16.8	16.2	9	77	820563	804932	<0.2	.2 2.1
	Cidday	modorato	11.00	7.0		3.9 6.8	0.5	23 17	26.9 26.8		7.8 7.8		19.2 21.8		79.5 78.1		5.7 5.5		19.3	10.3	Ü	77 78	020000	001002	<0.2	1.6
					Bottom	6.8	0.4	18 29	26.9 27.1	26.9	7.8 7.8		21.7 17.8		77.7 78.5	77.9	5.5 5.6		18.8	10 7		77 78			<0.2	2.1
					Surface	1.0	0.5	30	27.1	27.1	7.8	7.8	17.6	17.7	78.5	78.5	5.7	5.6	15.4	9		78			<0.2	2.2
IM6	Cloudy	Moderate	14:25	7.5	Middle	3.8	0.6	43 43	26.8 26.8	26.8	7.8		20.7		78.6 79.0	78.8	5.6 5.6	-	20.3	19.7	9	77 79 78	821044	805835	<0.2	2.5
					Bottom	6.5 6.5	0.4	53 56	26.8 26.8	26.8	7.8 7.8		21.8		78.2 78.1	78.2	5.5 5.5		22.9	6 8		78 79			<0.2	2.3
					Surface	1.0	0.5	43	27.3	27.3	7.8	7.0	17.8	17.7	77.9	78.0	5.6		9.9	9		80			<0.2	2.2
IM7	Claude	Moderate	14:15	7.6	Middle	1.0 3.8	0.5	43 72	27.2 27.0	27.0	7.8 7.8		17.5 20.0		78.0 78.3	78.4	5.6 5.6		10.7 16.2	7 15.1	10	77 78 78	821351	806833	<0.2	.2 2.6 2.4
IIVI /	Cloudy	woderate	14:15	7.0		3.8 6.6	0.3	78 60	26.9 26.9		7.8 7.8	7.0	19.8 21.8	15.5	78.4 77.7		5.6 5.5		18.2 18.1	15.1	10	78 77	821351	806833	<0.2	2.3
					Bottom	6.6	0.3	61	26.9	26.9	7.8	7.8	21.7	21.8	77.6	77.7	5.5	5.5	17.4	11		78	<u> </u>		<0.2	2.4
					Surface	1.0	0.5	52 52	27.5 27.5	27.5	7.8 7.8		17.3 17.3		84.7 87.1	85.9	6.1		8.9 10.2	11		83 84			<0.2	2.4
IM8	Cloudy	Moderate	14:33	7.4	Middle	3.7	0.5	70 75	27.3 27.3	27.3	7.8	7.0	19.1	10.2	94.2	94.4	6.7	6.5	16.5 16.8	14.2	11	83 83	821695	807838	<0.2	2.4
					Bottom	6.4	0.3	79	27.3	27.3	7.9	7.0	21.1	21.1	87.8	87.6	6.2	60	16.7	11		83			<0.2	2.2
DA: Denth-Ave					Dolloni	6.4	0.4	82	27.3	27.0	7.9	0	21.1		87.3	00	6.1		16.3	13		84			<0.2	1.9

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Quality Monitoring Results on 04 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.2 27.9 1.0 50 17.0 86.8 62 5.8 83 -02 2.0 Surface 27.9 7.8 17.0 87.0 7.8 1.0 0.2 50 27.8 16.9 87 1 6.2 6.1 11 84 -02 1.8 3.8 0.3 55 26.5 7.8 22.5 80.9 5.7 9.0 10 84 < 0.2 1.7 IM9 14:45 7.5 Middle 7.8 21.9 80.9 8.3 83 822078 808792 1.9 Cloudy Moderate 3.8 0.3 58 26.4 7.8 21.3 80.8 5.8 9.5 85 <0.2 1.8 6.5 0.2 61 26.3 7.8 22.9 9.6 13 81 <0.2 2.2 7.8 22.9 83.5 5.9 Rottom 26.3 7.8 83.6 5.9 9.5 81 <0.2 1.0 0.2 7.9 90 27.7 16.6 6.3 6.5 13 80 <0.2 2.0 87.2 Surface 27.7 7.9 16.6 87.2 7.9 16.6 87.2 6.3 2.0 1.0 0.2 96 27.7 6.5 11 79 <0.2 3.5 49 0.3 27.3 7.9 19.3 81.4 5.8 8.3 10 81 <0.2 1.9 IM10 Cloudy Moderate 14:52 6.9 Middle 27.3 7.9 19.4 81.4 7.5 81 822258 809856 1.9 7.8 5.8 82 1.7 3.5 0.3 50 27.3 19.4 81.3 8.4 11 < 0.2 5.9 0.3 58 26.3 7.8 22.9 85.2 6.0 7.8 12 83 <0.2 1.9 7.8 22.9 85.4 Bottom 26.3 5.9 0.3 58 26.3 7.8 7.4 10 83 1.9 1.9 0.2 27.8 5.5 83 7.8 6.2 11 < 0.2 Surface 27.8 7.8 17.0 87.0 1.0 0.2 102 27.7 7.8 16.9 87.0 6.2 5.8 13 83 2.1 < 0.2 3.6 0.3 41 27.3 7.9 19.8 84.2 6.0 7.0 9 79 < 0.2 1.9 19.7 821482 810540 IM11 Cloudy Moderate 15:02 7.1 Middle 27.4 7.9 83.6 6.9 2.0 3.6 0.3 41 27.5 7.9 19.6 83.0 5.9 7.4 11 80 < 0.2 2.0 6.1 0.2 58 26.3 7.8 22.9 83.6 5.9 8.2 10 81 <0.2 2.0 Bottom 26.3 7.8 22.9 84.4 6.0 6.1 0.3 59 26.3 7.8 22 9 85.2 6.0 7.5 11 84 < 0.2 2.3 1.0 0.2 76 27.6 7.8 17.3 6.4 12 84 <0.2 1.8 85.2 85.0 Surface 27.5 7.9 7.9 6.1 1.8 1.0 0.2 27.4 6.7 14 83 <0.2 3.8 0.3 60 27.2 7.9 20.9 82.3 5.8 8.0 14 81 < 0.2 2.4 7.9 20.6 821162 IM12 Cloudy Moderate 15:11 7.6 Middle 27.4 81.8 13 83 811506 21 7.9 20.3 5.7 8.7 81 <0.2 2.1 3.8 0.3 65 27.5 81.3 12 6.6 0.3 66 26.3 7.8 22.9 83.1 5.9 9.2 15 83 <0.2 2.5 Bottom 26.3 22.9 83.9 6.6 0.3 66 26.3 7.8 22.8 84.6 6.0 8.6 13 83 <0.2 22 1.0 0.5 267 27.1 5.8 2.0 7.9 21.2 6.2 81 <0.2 Surface 27.1 7.9 21.1 87.9 1.0 0.5 284 27.1 7.9 4 80 2.2 6.2 5.8 < 0.2 6.2 4.6 821443 814169 SR2 Cloudy Moderate 15:38 Middle 82 82 3.6 0.4 260 26.5 79 22.3 89.9 6.4 6.1 4 <0.2 1.8 Bottom 26.6 7.9 22.3 91.0 6.5 275 7 9 3.6 92 1 6.5 6.0 4 83 1.5 0.4 26.6 -02 1.0 0.4 63 27.5 7.8 92.6 6.6 10.9 10 Surface 27.5 7.8 17.3 92.9 1.0 0.4 63 27.5 7.8 17.3 93.2 6.7 11.2 4.1 0.5 74 27.3 7.9 19.9 19.6 SR3 14.26 82 Middle 27.3 7.9 19.9 102.4 822161 807565 Moderate Cloudy 4.1 0.5 27.3 7.9 19.9 102.4 7.3 20.0 10 7.2 0.3 10 27.3 8.0 21.1 100.4 7.1 21.8 21.1 Bottom 27.3 8.0 99.8 21.1 7.0 8.0 99.2 7.2 0.3 74 27.3 20.8 71 1.0 0.1 27.3 8.0 22.0 14.8 Surface 27.3 8.0 22.0 108.4 7.6 1.0 0.1 76 27.3 8.0 22.0 107.8 16.4 5 4.3 0.2 81 27.2 8.0 102.6 7.2 17.9 SR4A 16:18 27.2 8.0 22.3 101.9 16.8 817198 807813 Cloudy Moderate 8.5 Middle 4.3 0.2 27.2 8.0 22.3 18.5 0.2 26.7 16.7 7.9 23.1 96.3 6.8 26.7 Bottom 7.9 23.1 96.4 7.5 0.2 72 26.7 7.9 23.1 96.4 6.8 16.6 6 1.0 0.1 313 27.2 8.0 21.6 103.6 7.3 12.7 8 Surface 27.2 8.0 21.7 103.3 1.0 340 8.0 6 0.1 27.1 21.7 102.9 7.3 11.9 SR5A Cloudy 16:31 5.3 Middle 816605 810709 Moderate 4.3 0.1 320 26.9 12.5 7.9 22.1 7.4 7.5 27.0 8.0 22.1 105.8 Bottom 4.3 0.1 336 27.0 8.0 22.1 106.5 12.4 10 1.0 0.1 235 27.4 8.0 21.3 8.0 10.2 114.2 27.5 8.1 21.2 114.7 Surface 8.1 115.1 245 21.0 8.1 1.0 0.1 27.5 9.6 8 SR6 16:55 Middle 817908 814647 Cloudy Moderate 5.1 4.1 0.1 26.9 14.0 22.3 26.9 7.9 22.3 100.7 Bottom 4.1 0.1 7.9 101.7 7.2 13.8 26.9 0.1 24.1 7.8 28.4 6.2 2.4 87.2 Surface 24.1 7.8 28.4 1.0 0.1 172 7.8 28.4 87.2 6.2 2.4 24.1 2.7 8.5 0.1 96 23.4 7.8 30.4 86.6 6.1 4 SR7 Cloudy Moderate 16:31 16.9 Middle 23.4 7.8 30.4 86.6 823650 823730 8.5 7.8 30.4 3 0.1 100 23.3 86.6 6.1 2.8 15.9 0.2 174 23.1 7.8 31.0 86.6 6.1 2.7 Bottom 23.1 7.8 31.0 86.6 6.1 15.9 0.2 23.1 7.8 31.0 86.6 6.1 2.9 1.0 0.5 288 7.8 19.3 6.0 7.3 27.0 7.8 19.3 Surface 84 0 1.0 0.5 316 26.9 7.8 19.3 84.0 6.0 7.4 <2 6.0 SR8 Cloudy Moderate 15:23 5.0 Middle 820418 811600 7.8 7.9 4.0 0.4 266 26.3 88.6 6.3 8.2 26.5 7.9 22.8 90.5 92.4 4.0 0.4 270 26.6

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Section Sect	Water Qua			lts on		04 June 17 d	uring Mid-I	Ebb tide																		
See Brooks of Control of the Police of Control of Contr	Monitoring	Weather	Sea	Sampling	Water	Onesalian Double	()		Current	Water Te	mperature (°C)	pН	Sa	linity (pp	pt) DO				ty(NTU)				Coordinate			m Nickel (μg/L
Substitution Subs	Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value	Average	Value Av	erage Vali	ie Aver	rage Value	Average	Value	DA Value	DA	Value	DA Va	ılue DA			Value D/	A Value DA
Martin						Surface					27.8							14.0								
Second S	C1	Cloudy	Moderate	09:34	8.4	Middle	4.2	0.4	191	27.0	27.0	7.8	7.8	3 19			5.5	12.8	13.9	12	12 7	75 75	815632	804246	<0.2	1.6
Carrow Moderate Carrow Moderate Carrow Moderate Carrow Moderate Carrow Ca						Bottom	7.4	0.6	120	25.3	25.4	7.8	7 9 25.	6 25	79.5	81.1	5.6	_{5.7} 15.2		11	7	76			<0.2	1.7
Charles Char						Surface	1.0	1.2	185	28.4	28.4	7.7	7 7 13.	2 12	78.5	70.2	5.7	5.3		13	8	33			<0.2	1.8
Marcon M	C2	Cloudy	Moderate	10:55	9.1		4.6	0.9	173	26.1		7.7	7 7 21.	7 21	78.0	62.6	4.5	8.9	10.9	8	12 8	33 83	825697	806954	<0.2	1.6
Couly Midelese 10.5 Coul		,					8.1	0.7	172	25.0		7.7	7 7 25.	0 25	62.5	60.9	4.3	17.5		13	8	33			<0.2	1.8
Column												7./	25.	0	61.5			18.7								
Martin M				00.57								7.8	23.	5	69.7 57.5		5.0 4.1		7		9	20	000447	0.17700	-0.2	1.6
May Moderate 100 9 60 Moderate 100 Mode	C3	Cloudy	Moderate	08:57	9.3		4.7	0.9	79	24.9		7.8	7.8 25.	2 25	57.3	57.4	4.1	5.7	5.6	5	8	32	822117	817786	<0.2	1.8
Mode							8.3	0.8	85	23.9		7.8	7.0 28.	0 20	61.3	60.3	4.4			6	8	33			<0.2	1.8
Mode						Surface	1.0	0.5	225	27.7	27.7	7.8	16.	8 16	79.9	80.0	5.7	_{5.5} 9.9		10	7	73			<0.2	1.9
Moderate	IM1	Cloudy	Moderate	10:09	8.6	Middle	4.3	0.3	206	27.1	27.1	7.8	7.8	3 19	73.8	73.9	5.3	11.0	11.3	9	7	75	818368	806465	<0.2	1.6
Moderate 10.77 9.4 Moderate 10.77 9.4 Moderate 10.77 9.4 Moderate 10.77 9.77 9.78						Bottom	7.6	0.3	63	25.8	25.8	7.8	7.0 25.	3 23	69.7	09.0	4.9	13.0		10	7	76			<0.2	1.7
Moderate 10.17 9.4 Moderate 10.18 9.4 Moderate 10.1						Surface	1.0	0.6	248	27.3	27.3	7.8	18.	9 18	86.2	86.3	6.1	8.8		11					<0.2	1.6
May Cloudy Moderate 10.52 P.3 Middle 10. 0.4 Case 1.0 Case 1.	IM2	Cloudy	Moderate	10:17	9.4	Middle	4.7	0.5	252	27.1	27.1	7.8	20.	1 20	84.8	04.9	6.0	10.2	10.1	10	7	75	818836	806198	<0.2	1.5
Mode						Bottom				26.9	27.0								+		7	77				
Mode						Surface				27.3 27.3	27.3	7.8						9.5			7	73 73				1.4
Botton B	IM3	Cloudy	Moderate	10:32	9.3	Middle					27.2							9.6	9.6		0 7	75	819428	806019		
Martin M						Bottom		0.3	140	26.9	26.9	7.8								8	7	77			<0.2	1.7
Math Cloudy Moderate 10.40 Moderate 10.40 Moderate 10.40 Moderate 10.40 Moderate 10.50 Moderate 10.						Surface	1.0	1.1	242	27.6	27.6	7.8	7 0 15.	4 15	78.5	70.5	5.7	9.4		11	7	73			<0.2	1.7
Patt	IM4	Cloudy	Moderate	10:40	8.7	Middle	4.4	1.0	242	27.3	27.3	7.8	7 9 18.	0 10	77.1	77.0	5.5	13.6	13.1	10	10 7	75 75	819578	805025	<0.2	1.5
No.						Bottom	7.7	0.8	233	27.2	27.2	7.8	7 9 18.	4 10	77.2	77.4	5.5	5.6 16.2		9	7	76			<0.2	1.5
Moderate 10:50 Table T						Surface	1.0	0.8	243	27.6	27.6	7.8	7.8 16.	1 16	82.3	81.4	5.8	7.6		10	7	73			<0.2	1.6
Bottom B	IM5	Cloudy	Moderate	10:50	7.8	Middle	3.9	0.7	246	27.3	27.3	7.8	7 0 17.	9 17	79.1	70.2	5.7	14.1	12.7	8	, 7	75 75	820570	804932	<0.2	1.7
Surface 1.0 0.9 224 27.5 27.5 27.5 7.7 7.7 16.1 16.1 74.6 74.4 5.3 7.5		,				Bottom	6.8	0.6	245	27.1		7.8	7.8	5 18	79.3	83.5	5.9	6.0 16.4		7	7	77			<0.2	1.6
Maching Mach							1.0	0.9	224	27.5		7.8	18. 7.7	1 16	74.6	74.4	5.4	7.2		8	7	73			<0.2	1.6
Moderate Figure	IMG	Cloudy	Modorato	11:05	7.2							7./	16.	1	74.1				12.6	12	0 7	75 76	921060	905922	-0.0	1.6
Moderate Figure	IIVIO	Cloudy	Woderate	11.00	7.0							7.7	18.	1	71.4			10.4	12.0		7	5	021000	003022	<0.2	1.6
Moderate												7.7	19.	1	70.4	70.3	5.1	19.6			7	77				
Middle Moderate Middle Moderate Middle Moderate Middle Moderate Middle Moderate							1.0	0.9	233	27.5		7.7	15.	9 15	75.2	74.5	5.4	8.1	ا ا	10	7	73			<0.2	1.6
Moderate 10.25 Fig. Fi	IM7	Cloudy	Moderate	11:16	7.4		3.7	0.8	252	26.8		7.7	18.	7 18	72.2	72.1	5.2	15.0	13.4	6	° 7	75	821363	806850	<0.2	1.5
IM8 Cloudy Moderate 10:25 7.5 Middle 3.8 0.7 211 26.3 26.3 26.3 7.7 7.7 20.8 20.8 20.9 26.7 7.7 7.7 20.8 20.8 20.8 20.9 26.2 26.2 7.7 7.7 21.3 21.3 68.3 68.6 4.9 4.9 18.3 11 82 21 82.7 82.8 20.9 18.8 11 82 21.0 4.9 12.8 20.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.9 12.8 20.9 13.8 21.0 4.0 13.8 21.0 4.0 13.8 21.0 4.0 13.8 21.0 4						Bottom	6.4	0.7	249	26.7		7.7	19.	2 13	77.2	70.0	5.5	16.6		8	7	77			0.6	1.6
INS Cloudy Moderate 10:25 7.5 Middle 3.8 0.7 2.18 26.3 26.2 3.7.7 7.7 20.8 20.9 67.9 67.9 67.9 4.9 14.9 14.3 10 10 79 80 62.70 80.782 40.2 40.2 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.6						Surface	1.0	0.8	219	26.7	26.7	7.7	19.	8 19	70.7	70.7	5.1	5.0 9.8	#	10	7	79			<0.2	1.6
Bottom 6.5 0.6 239 26.2 26.2 7.7 7.7 21.3 21.3 68.8 68.6 4.9 4.9 18.8 11 82 <	IM8	Cloudy	Moderate	10:25	7.5	Middle	3.8	0.7	218	26.3	26.3	7.7	20.	8 20	67.9	67.9	4.9	14.7	14.3	10	7	79	821706	807842	<0.2	1.6
A: Depth-Averaged						Bottom					26.2															

Water Qua Water Qua			lts on		04 June 17	during Mid-E	Ebb tide																				
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	mperature (°C)	pH	+	Salini	ty (ppt)		aturation %)	Disso		Turbidity(NTU) S	uspended (ma/L		Total Alkalinity	Coordinate		Chromium (μg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Dept	th (m)	(m/s)	Direction	Value	Average	Value A	Average	Value	Average	— ì	,		DA	Value	DA	Value	DA	Value DA	HK Grid (Northing)	HK Grid (Easting)		Value DA
					Surface	1.0	0.8	152	28.8	28.8	7.9 7.9	7.9	13.3	13.3	91.5	91.4	6.6		3.5 3.5		9		84			<0.2	1.6
IM9	Cloudy	Moderate	10:14	7.7	Middle	1.0 3.9 3.9	0.8 0.7 0.8	154 143 155	28.8 26.5 26.5	26.5	7.7		20.9	20.9	91.2 70.2 70.2	70.2	6.5 5.0 5.0	5.8	9.6 9.6	8.5	9 4 6	6	84 85 85	822081	808830	<0.2 <0.2 <0.2	2 1.6 1.7 1.6
					Bottom	6.7	0.5	120	26.2	26.3	7.7	77	21.7	21.7	70.3	70.7	5.0	5.1	12.4		6		84			<0.2	1.6
						6.7 1.0	0.5	122 133	26.3 28.2		7.7	-	21.7 16.9		71.0 90.8	90.5	5.1 6.4		12.1 3.5		8		83 81			<0.2 <0.2	1.5
					Surface	1.0 4.0	0.8	134 103	28.2 26.3	28.2	7.9 7.8	7.9	17.3 21.5	17.1	90.2 72.3		6.4 5.2	5.8	3.6 9.8		6		81			<0.2	1.8
IM10	Cloudy	Moderate	10:03	7.9	Middle	4.0	0.7	112	26.3	26.3	7.8	7.8	21.5	21.5	72.3 74.0	72.3	5.2		9.7	8.2	5	7	83 84	822252	809836	<0.2	2 1.8 1.7
					Bottom	6.9	0.7	102	26.0	26.0	7.8	7.8	22.2	22.2	75.1	74.6	5.4	5.4	11.1		6		84			<0.2	1.6
					Surface	1.0	0.6	117 125	27.5 27.5	27.5	7.9	7.9	18.7 18.7	18.7	85.4 85.2	85.3	6.1	- 0	5.1 5.2	-	4	-	80 79			<0.2	1.7
IM11	Cloudy	Moderate	09:51	7.8	Middle	3.9 3.9	0.4 0.5	99 101	26.3 26.3	26.3	7.8 7.8	7.0	21.2 21.2	21.2	75.7 75.8	75.8	5.4 5.4	5.8	14.0 14.3	11.4	7 5	5	80 82 81	821491	810537	<0.2	2 1.8 1.7
					Bottom	6.8	0.4	90 97	26.3 26.3	26.3	7.8		21.4	21.4	77.8 78.1	78.0	5.6 5.6	5.6	14.9 14.9	-	3	-	83 83			<0.2	1.6
					Surface	1.0	0.5 0.6	112 121	28.4 28.3	28.4	7.9 7.9	7.9	16.7 16.7	16.7	97.0 96.3	96.7	6.9 6.8	-	2.5 2.6		3	ŀ	80 81			<0.2 <0.2	1.7
IM12	Cloudy	Moderate	09:42	8.1	Middle	4.1	0.5	91	26.8	26.8	7.8		20.2	20.2	80.6 80.6	80.6	5.8	6.3	7.6	7.0	4	4	83	821148	811527	<0.2	2 1.8 1.7
					Bottom	7.1	0.5 0.4	96 86	26.8 26.6	26.6	7.8 7.8	7.8	20.6	20.6	81.0	81.3	5.8 5.8	5.8	8.1 11.1		4		83 84			<0.2	1.6
					Surface	7.1 1.0	0.4	100	26.6 27.3	27.4	7.8 7.9	7.9	20.6 19.8	19.9	81.6 85.7	85.5	5.8 6.1		10.3 11.7		6 5		84			<0.2	1.8
						1.0	0.5	104	27.5		7.9	7.9	19.9	19.9	85.2	03.3	6.0	6.1	12.6		5	F	80			<0.2	1.6
SR2	Cloudy	Moderate	09:16	4.7	Middle	3.7	-	- 83	26.5	-	7.8	-	21.2	-	- 04.4	-	6.0		17.4	14.6	5	5	- 81	821458	814185	<0.2	2 1.8
					Bottom	3.7	0.3 0.3	87	26.6	26.6	7.8	7.0	21.2	21.2	84.4 85.8	85.1	6.1	6.1	16.5		5		83			<0.2	2.0
					Surface	1.0	0.9 1.0	203 205	26.6 26.6	26.6	7.7		20.2	20.2	69.2 69.1	69.2	5.0 4.9	4.9	10.0 9.9		9		-			-	-
SR3	Cloudy	Moderate	10:37	7.8	Middle	3.9	0.9	209 220	26.3 26.3	26.3	7.7	7.7	20.8	20.8	67.2 67.2	67.2	4.8	4.5	14.0 14.2	14.7	10 8	9		822152	807582		-
					Bottom	6.8 6.8	0.8	220 241	26.1 26.2	26.2	7.7		21.4	21.4	67.7 68.6	68.2	4.9	4.9	20.1 19.9	-	9	-	-			-	-
					Surface	1.0	0.6	246 270	27.3 27.3	27.3	8.0		21.7	21.8	104.5 104.2	104.4	7.3 7.3		19.6 19.8		12 10		-			-	-
SR4A	Cloudy	Moderate	09:12	8.3	Middle	4.2 4.2	0.5	242 246	27.1 27.1	27.1	8.0	8.0	21.9	21.9	98.6 98.2	98.4	6.9	7.1	14.4 14.6	15.3	10	11	-	817200	807790		-
					Bottom	7.3 7.3	0.4	257 263	26.5	26.5	7.9	7.0	23.3	23.3	94.1	94.7	6.6	6.7	11.6		13		-			-	-
					Surface	1.0	0.2	291	27.3	27.3	8.0	8.0	21.4	21.4	100.9	100.7	7.1		11.7		9		-			-	-
SR5A	Claudy	Moderate	08:52	4.6	Middle	1.0	0.2	303	27.3		8.0		21.4		100.5		7.1	7.1	11.8	12.9	- 11	10	-	816588	810676	-	-
Show	Cloudy	Moderate	06.52	4.0		3.6	0.2	306	26.9		7.9	-	22.5	-	98.2		6.9		14.0	12.9	10	10	-	010300	810676	-	-
					Bottom	3.6	0.2	329 276	26.9	26.9	7.9	7.9	22.5	22.5	98.3 101.4	98.3	6.9	6.9	14.0		11 8		-				
					Surface	1.0	0.2	289	27.1	27.1	8.0		21.7		101.3	101.4	7.1	7.1	11.5		10	-	-				-
SR6	Cloudy	Moderate	08:22	4.3	Middle	-	-	-	-	-	-		-	-	-	-	-		-	11.7	-	11		817882	814648		-
					Bottom	3.3 3.3	0.2	261 263	27.0 26.8	26.9	8.0	8.0	22.4 22.4		104.0 104.3	104.2	7.3 7.3	7.3	12.0 11.9		14 12		-			-	-
					Surface	1.0	1.2	71 74	25.7 25.7	25.7	7.8		23.0	23.0	89.7 89.7	89.7	6.3		7.1 7.1		14 12		-			-	-
SR7	Cloudy	Moderate	08:25	16.3	Middle	8.2 8.2	0.9	63 65	24.7	24.8	7.8	7.8	25.3 25.0	25.2	77.5 77.5	77.5	5.4	5.9	12.0 11.5	10.0	11	12	-	823627	823751		
					Bottom	15.3 15.3	0.9 0.9	94 100	23.9 23.9	23.9	7.8 7.8	7.8	27.7 27.7	27.7	77.9 78.0	78.0	5.4 5.4	5.4	11.1 11.2		14 12		-			-	-
					Surface	1.0	0.3	222 226	28.0 28.0	28.0	7.8	7.8	19.5 19.5	19.5	92.4 92.4	92.4	6.5 6.5		11.3 11.8		7		-			-	-
SR8	Cloudy	Moderate	09:31	5.2	Middle	-	-	-	-	-	-	-	-	-	-	-	-	6.5	-	13.4	-	7		820413	811576	-	-
					Bottom	4.2	0.4	195 196	27.3	27.3	7.9		20.1	20.1	90.8	91.0	6.4	6.4	15.2 15.1		7	ļ	-			-	-
DA: Denth-Ave					1	4.2	U.4	196	27.3		7.9		∠∪.1		91.1		0.4		15.1		Э		-	1	1	<u> </u>	

Water Quality Monitoring Results on 06 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 29.4 1.0 0.4 210 20.8 5.8 9.5 -02 Surface 29.4 7.9 20.8 85.7 7.9 1.0 0.5 223 29 4 20.8 85.7 5.8 9.5 76 -02 12 3.1 0.3 193 28.1 7.9 76.5 5.3 10.9 9 77 < 0.2 1.4 C1 16:58 6.1 Middle 7.9 23.2 76.5 11.0 77 815615 804249 1.6 Cloudy Moderate 3.1 0.3 207 28.1 7.9 23.2 76.5 5.3 10.9 10 76 <0.2 1.4 5.1 0.1 249 27.5 7.9 25.3 12.6 9 78 <0.2 2.1 7.9 25.3 79.6 5.5 Rottom 27.5 0.1 7.9 79.6 5.5 12.6 79 <0.2 1.0 1.1 168 7.9 74 29.6 12.6 87.6 6.2 5.8 <0.2 3.0 3 Surface 29.7 7.9 12.6 87.6 7.9 12.6 87.6 6.2 73 2.9 1.0 1.2 168 29.7 5.8 4 <0.2 5.9 5.5 0.7 76 28.0 7.8 19.4 5.6 8.6 4 <0.2 2.9 C2 Sunny Moderate 16:07 10.9 Middle 28.0 7.8 19.4 79.2 8.0 76 825668 806935 2.9 79.2 5.6 76 3.0 5.5 0.7 194 28.0 7.8 19.4 8.6 4 < 0.2 9.9 0.4 174 27.7 7.9 24.6 5.6 9.6 77 <0.2 3.0 27.7 7.9 24.6 81.2 5.6 Bottom 9.9 0.4 188 27.7 7.9 24.6 9.6 77 2.8 74 0.5 29.4 3.2 1.8 8.1 18.5 6.8 < 0.2 Surface 29.4 8.1 18.5 98.7 1.0 0.5 275 8.1 18.5 98.7 6.8 3.2 74 2.0 29.4 3 < 0.2 5.7 0.4 247 28.5 8.0 21.1 89.4 6.2 3.6 4 75 < 0.2 2.0 21.1 822128 817814 C3 Sunny Moderate 17:58 11.4 Middle 28.5 8.0 89.4 5.7 0.4 248 28.5 8.0 21.1 89.4 6.2 3.6 3 76 < 0.2 2.0 10.4 1.2 166 28.0 8.0 25.5 91.3 6.2 3.5 6 77 77 <0.2 2.0 Bottom 28.0 8.0 25.5 91.3 6.2 10.4 1.3 28.0 8.0 25.5 91.3 6.2 3.5 < 0.2 17 1.0 0.9 211 15.0 94.1 8.5 75 2.1 30.7 8.0 15.0 6.5 5 <0.2 94.1 Surface 30.7 8.0 8.0 94.1 6.5 76 2.3 1.0 1.0 216 30.7 8.5 4 <0.2 2.4 3.8 0.3 214 28.8 8.0 19.3 83.2 5.8 12.6 6 76 < 0.2 19.3 83.2 IM1 Cloudy Moderate 16:49 7.6 Middle 28.8 8.0 12 0 77 818365 806464 22 8.0 19.3 83.2 5.8 12.6 77 <0.2 2.4 3.8 0.4 233 28.8 6 6.6 0.2 240 27.6 7.9 26.7 81.0 5.5 5.5 14.8 13 78 <0.2 2.1 Bottom 7.9 26.7 81.0 5.5 6.6 0.2 256 27.6 79 26.7 81.0 14.8 13 79 <0.2 2.0 1.0 0.9 225 29.8 8.7 75 <0.2 2.5 8.0 14.8 7.4 Surface 29.8 8.0 14.8 105.3 1.0 0.9 8.0 14.8 105.3 7.4 8.7 74 <0.2 2.4 233 29.8 10.2 2.3 3.8 0.6 219 28.9 7.9 18.3 85.6 6.0 9 76 <0.2 16:45 7.5 7.9 85.6 818844 806182 IM2 Cloudy Moderate Middle 28.9 18.3 23 3.8 0.6 231 28.9 7.9 18.3 85.6 6.0 10.2 9 77 <0.2 6.5 0.4 211 27.6 79 26.6 81.9 5.6 13.3 9 78 < 0.2 2.1 Bottom 7.9 26.6 81.9 5.6 6.5 7.9 5.6 26.6 81 9 13.2 78 22 0.4 211 27.6 9 -n 2 1.0 0.6 232 29.6 8.0 15.4 97.2 6.8 6.4 6 75 <0.2 2.7 Surface 29.6 8.0 15.4 97.2 1.0 0.7 237 29.6 8.0 15.4 97.2 6.8 6.4 75 <0.2 2.9 3.9 0.5 223 8.0 8.4 76 <0.2 2.8 29.2 IM3 16:37 77 Middle 29.2 8.0 16.3 92.2 8.7 819414 806021 28 Moderate Cloudy 3.9 0.6 231 29.2 8.0 16.3 92.2 6.5 8.4 77 <0.2 2.8 78 6.7 196 <0.2 2.5 0.4 29.1 8.0 18.3 93.3 6.5 11.3 18.3 93.3 6.5 Bottom 29.1 8.0 6.5 8.0 18.3 93.3 11.3 2.8 6.7 0.5 78 < 0.2 208 29.1 1.0 0.5 210 30.9 7.9 6.6 76 <0.2 2.9 Surface 30.9 7.9 13.7 102.7 7.9 7.1 75 2.7 1.0 0.5 210 30.9 6.6 4 < 0.2 3.3 0.6 226 30.8 7.9 6.7 8.5 76 <0.2 2.8 IM4 16:29 7.9 15.3 97.4 819574 805033 2.8 Cloudy Moderate 6.6 Middle 30.8 3.3 0.6 239 30.8 7.9 6.7 8.5 6 77 <0.2 2.8 0.5 28.9 7.9 18.6 12.3 <0.2 6.4 8 7.9 18.6 91.7 Botton 28.9 5.6 0.6 237 7.9 18.6 91.7 6.4 12.3 78 2.9 28.9 8 < 0.2 1.0 0.6 210 30.3 7.9 12.9 98.2 6.9 7.7 7.7 75 75 < 0.2 2.8 13.0 Surface 30.3 7.9 98.2 7 224 7.9 98.2 < 0.2 2.8 1.0 0.6 30.3 6.9 3.1 0.5 246 30.1 7.9 14.9 95.0 6.6 10.6 7 76 <0.2 3.2 IM5 Cloudy 16:20 6.1 Middle 30.1 7.9 14.9 95.0 10.6 820546 804924 2.6 Moderate 3.1 0.5 256 30.1 7.9 14.9 95.0 6.6 10.6 77 <0.2 3.0 5.1 0.5 13.4 19 78 <0.2 1.8 28.4 7.9 21.7 81.6 5.6 7.9 21.7 81.6 5.6 Bottom 28.4 7.9 5.6 0.5 28.4 13.4 18 <0.2 2.1 1.0 0.4 210 31.0 7.8 12.3 6.9 6 <0.2 2.7 31.0 7.8 12.3 99.8 Surface 12.3 99.8 6.9 <0.2 2.9 7.8 1.0 0.4 225 31.0 7.3 74 3.1 0.5 242 30.3 7.9 15.2 99.2 6.9 7.1 8 76 <0.2 2.9 IM6 16:15 Middle 30.3 15.2 99.2 821040 805815 2.7 Cloudy Moderate 6.2 3.1 0.5 253 30.3 7.9 15.2 99.2 6.9 7.1 6 76 < 0.2 2.8 5.2 0.4 249 28.6 12.6 78 <0.2 2.3 21.4 5.9 7.8 21.4 85.0 5.9 Bottom 28.6 5.2 7.8 21.4 85.0 5.9 12.6 10 78 <0.2 2.6 0.4 28.6 234 29.6 7.8 93.4 6.5 <0.2 2.1 17.1 Surface 29.6 7.8 17.1 93.4 17.1 7.7 74 2.2 1.0 0.7 251 7.8 93.4 6.5 6 <0.2 29.6 12.1 75 76 2.8 3.7 0.5 262 29.0 7.8 19.3 85.0 59 <0.2 IM7 Cloudy Moderate 16:07 7.3 Middle 7.8 19.3 85.0 821357 806832 2.7 3.7 7.8 5.9 0.5 269 29 0 193 84 9 122 <n 2 6.3 0.3 257 28.6 7.8 21.3 85.2 5.9 15.7 9 78 <0.2 2.9 Bottom 28.6 7.8 21.3 85.2 5.9 6.3 0.3 279 28.6 7.8 21.3 85.2 5.9 15.7 78 <0.2 3.1 1.0 0.7 189 29.1 7.9 5.6 74 <0.2 3.2 79 15.5 Surface 29 1 88.2 88.1 0.7 199 29.1 7.9 15.7 6.2 5.7 74 <0.2 3.2 2.9 3.7 75 0.6 205 28.4 7.9 19.5 5.8 6.9 6 < 0.2 83.6 19.5 821686 IM8 Sunny Moderate 16:36 7.4 Middle 28.4 7.9 83.7 76 807827 2.8 3.7 7.9 195 83.7 5.8 6.9 76 <0.2 0.6 222 28 4 6 77 77 7.9 7.9 6.4 0.5 231 28.4 20.1 86.6 6.0 8.5 <0.2 2.1 Bottom 28.4 7.9 20.1 86.6 6.0 6.4 0.5 253 28.4 2.4

DA: Depth-Average

Water Qua Water Qua			lts on		06 June 17	during Mid-	Flood Tid	de																			
Monitoring	Weather	Sea	Sampling	Water		-	Current Speed	Current	Water Temp	perature (°C)	pl	Н	Salini	ity (ppt)		aturation %)	Disso		Turbidity(NTU) Si	spended S (mg/L)	olids Tota	l Alkalinity (ppm)	Coordinate	Coordinate	Chromiur (µg/L)	M Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling De	ptn (m)	(m/s)	Direction	Value	Average	Value A	Average	Value	Average			Value		Value	DA		DA Val		HK Grid (Northing)	HK Grid (Easting)	Value D	A Value DA
					Surface	1.0	0.5 0.5	174 184	29.7 29.7	29.7	7.9 7.9	7.9	14.8 14.8	14.8	88.4 88.4	88.4	6.2	H	5.2 5.2	F	3	7:	3			<0.2 <0.2	3.3 3.4
IM9	Sunny	Moderate	16:30	6.6	Middle	3.3	0.2	176 181	28.5 28.5	28.5	7.9	7.9	20.1	20.1	85.7 85.7	85.7	6.0	6.1	6.1	6.1	2	5 7	76	822093	808801	<0.2	2.0
					Bottom	5.6	0.2	218	28.4	28.4	7.9	7.9	20.6	20.6	87.9	87.9	6.1	6.1	7.0		7	7	7			<0.2	2.5
					Surface	5.6 1.0	0.2	237 165	28.4 28.7	28.7	7.9	7.9	20.6	18.1	87.9 86.6	86.6	6.1		7.0 4.5		6	7	1			<0.2 <0.2	2.8
IM10	C	Mad	10:40	6.0		1.0 3.5	0.5 0.3	170 166	28.7 28.4		7.9 7.9		18.1 21.1		86.6 85.8		6.1 5.9	6.0	4.5 5.6	E 7	6	7	2	000040	900040	<0.2	2.9
IM10	Sunny	Moderate	16:48	6.9	Middle	3.5 5.9	0.3	167 179	28.4 28.3	28.4	7.9 7.9	7.9	21.1	21.1	85.8 87.6	85.8	5.9 6.1		5.6 7.0	5.7	5	7	3 10	822246	809846	<0.2 <0.2	2.8 2.5
					Bottom	5.9	0.3	182	28.3	28.3	7.9		21.6	21.6	87.7	87.7	6.1	6.1	7.0		7	7	7			<0.2	2.7
					Surface	1.0	0.2	161 168	29.6 29.6	29.6	7.9	7.9	14.3 14.3	14.3	92.2 92.2	92.2	6.5 6.5	6.3	4.6 4.6		5	7	1			<0.2	2.4
IM11	Sunny	Moderate	16:57	7.6	Middle	3.8	0.3	151 158	28.6 28.6	28.6	7.9	7.9	18.8	18.8	87.8 87.8	87.8	6.1	-	5.3 5.3	5.2	4	5 7	3 / "	821517	810538	<0.2	2.4 2.4
					Bottom	6.6 6.6	0.3	138 141	28.5 28.5	28.5	7.9 7.9	7.9	20.9	20.9	89.6 89.6	89.6	6.2	6.2	5.7 5.7		4	7	7			<0.2	2.0
					Surface	1.0	0.2	108	30.0 30.0	30.0	8.0	8.0	14.9	14.9	102.7 102.4	102.6	7.2		5.1		3 5	7-	1			<0.2	2.4
IM12	Sunny	Moderate	17:06	7.0	Middle	3.5	0.2	117	29.1	29.1	8.0	8.0	16.5	16.5	90.1	90.0	6.3	6.7	6.2	6.7	6	5 7	76	821151	811529	<0.2	2.2 2.6 2.5
	,				Bottom	3.5 6.0	0.2	125 179	29.1 28.5	28.5	8.0 7.9	7.9	16.5 20.3	20.3	89.8 90.9	90.9	6.3	6.3	6.3 8.6		5	7	7			<0.2	2.5
						6.0 1.0	0.2	185 179	28.5		7.9 8.1		20.3		90.9		6.3 7.0	0.0	8.6 3.4		4	7		1	1	<0.2	2.5
					Surface	1.0	0.3	187	29.6	29.6	8.1	8.1	15.7	15.7	100.5	100.7	7.0	7.0	3.4		5	7-	1			<0.2	2.8
SR2	Sunny	Moderate	17:28	4.6	Middle	-	-	-	-	-	-	-	-	-	- 04.7	-	-		-	3.5	-	4 7	75	821445	814170	- <0	2.6
					Bottom	3.6 3.6	0.3	172 172	28.8 28.8	28.8	8.0	8.0	19.0 19.0	19.0	94.7 94.7	94.7	6.6	6.6	3.5 3.5		3	7				<0.2	2.5
					Surface	1.0	0.9 1.0	182 192	29.8 29.8	29.8	7.8	7.8	12.6 12.6	12.6	87.1 87.1	87.1	6.2	6.0	5.6 5.6		5		_			-	-
SR3	Sunny	Moderate	16:27	8.1	Middle	4.1	0.7	184 185	28.3 28.3	28.3	7.9	7.9	19.7 19.7	19.7	83.0 83.0	83.0	5.8	0.0	8.5 8.5	7.8	3	4		822131	807573		
					Bottom	7.1 7.1	0.4	226 226	28.2 28.2	28.2	7.9 7.9		21.7	21.7	84.4 84.5	84.5	5.8 5.8	5.8	9.4 9.1		3					-	-
					Surface	1.0	0.9	252	30.5	30.5	8.1	8.1	19.7	19.7	108.2	108.2	7.3		7.8		9	-				-	-
SR4A	Cloudy	Calm	17:13	7.6	Middle	1.0 3.8	0.9	272 256	30.5 29.9	29.9	8.1	8.0	19.7 20.8	20.8	108.2 100.0	100.0	7.3 6.8	7.1	7.8 10.2	11.0	9	10	_	817203	807795	-	
	,				Bottom	3.8 6.6	0.8	275 255	29.9 28.3	28.3	8.0	9.0	20.8	24.0	100.0 105.3	105.3	6.8 7.2	7.2	10.2 15.1	-	9	-				-	-
						6.6 1.0	0.5	258 322	28.3 30.2		8.0 8.1		24.0 19.7		105.3 121.9		7.2 8.3	1.2	15.1 9.1		9	-				-	-
					Surface	1.0	0.2	347	30.2	30.2	8.1	8.1	19.7	19.7	121.9	121.9	8.3	8.3	9.1		11	-				-	-
SR5A	Cloudy	Calm	17:32	5.6	Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	12.5	-	12	-	816601	810687	-	-
					Bottom	4.6 4.6	0.1	281 287	29.1 29.1	29.1	8.0	8.0	21.5 21.5	21.5	99.5 99.5	99.5	6.8	6.8	15.8 15.8		11 12					-	-
					Surface	1.0	0.1	245 260	31.7 31.7	31.7	8.1		20.1	20.1	117.0 117.0	117.0	8.6	0.0	12.5 12.5		9					-	-
SR6	Cloudy	Calm	18:00	3.8	Middle	-	-	-	-	-	-	-	-	-	-	-	-	8.6	-	13.1	-	10		817911	814660	-	
					Bottom	2.8	0.1	322	29.5	29.5	8.1	8.1	21.7	21.7	121.6	121.6	8.9	8.9	13.6		10	-				-	-
					Surface	1.0	0.1	350 108	29.5	29.4	8.1	8.1	21.7 19.9	19.9	121.6 102.9	102.7	7.0		13.6		3					-	-
SR7	Sunny	Moderate	18:33	21.3	Middle	1.0	0.1	117 123	29.4 27.7	27.7	8.1	8.0	19.9 25.4	25.5	102.5 85.6	85.6	7.0 5.9	6.4	2.7 3.7	3.9	5	4	-	823651	823751	-	-
on/	Suriny	woderate	10.33	21.3		10.7 20.3	0.2	126 100	27.7 26.9		8.0 7.9		25.5 29.1		85.5 82.9		5.8 5.6		3.7 5.2	3.8	3	4		023031	023/31	-	-
					Bottom	20.3	0.2	100	26.9	26.9	7.9	7.9	29.1	29.1	82.9	82.9	5.6	5.6	5.2		3					-	
					Surface	1.0	0.2	223 234	29.8 29.8	29.8	8.1	8.1	15.7 15.7	15.7	100.4	100.2	7.0	7.0	7.6 7.8		2					-	-
SR8	Sunny	Moderate	17:13	5.0	Middle	-	-	-	-	-	-	-	-	-	-		1	L -	-	9.9	-	4		820412	811580	-	
					Bottom	4.0 4.0	0.2	236 247	29.2 29.2	29.2	8.0	8.0	18.6 18.6	18.6	98.6 98.6	98.6	6.8	6.8	12.0 12.0		6 5	-				-	-
A. Donth Ave																			-								

	lity Monit	oring Resu	lts on		06 June 17	during Mid-	Ebb tide																			
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Ter	mperature (°C	3)	рН	Salinity (ppt)) [OO Saturation (%)	Dissolved Oxygen	Turbidity	y(NTU)	Suspende (mg		Total Al		Coordinate	Coordinate	Chrom	
Station	Condition	Condition	Time	Depth (m)	Sampling	Deptn (m)	(m/s)	Direction	Value	Average	Value	Average	Value Averag	ge V	alue Average	Value DA	Value	DA	Value	DA	Value	DA	HK Grid (Northing)	HK Grid (Easting)	Value	DA Value
					Surface	1.0	0.1	246 254	29.9	29.9	8.0	8.0	15.6 15.6		01.9	7.1	6.2 6.2		4		75 76				<0.2	2.1
C1	Cloudy	Calm	10:57	6.4	Middle	3.2	0.1	162	28.6	28.6	7.9	7.9	21.6		81.3	5.6	9.8	9.7	4	5	77	77	815619	804228	<0.2	-0.2
0.	Cidday	ou	10.07	0.1		3.2 5.4	0.2	176 189	28.6 27.2		7.9 7.9		21.6	3	31.3	5.6	9.8	- 0	7	Ŭ	78 78		010010	00.220	<0.2	1.8
					Bottom	5.4	0.2	205	27.2 29.4	27.2	7.9	7.9	26.9	7	9.7	5.4	13.2		6		79				<0.2	1.8
					Surface	1.0	1.1	171 173	29.4	29.4	7.8 7.8	7.8	13.4 13.4		86.2 86.2	6.1	5.5 5.5	1	5 4		73 73				<0.2	2.1
C2	Sunny	Moderate	11:46	11.3	Middle	5.7 5.7	1.0	169 170	28.2 28.2	28.2	7.9 7.9	7.9	20.6		81.7	5.7	6.7 6.7	6.2	7 5	5	76 75	75	825695	806939	<0.2	<0.2 2.6 2.5
					Bottom	10.3 10.3	0.5 0.5	146 146	27.8 27.8	27.8	7.9 7.9	7.9	24.8 24.7 24.8		83.2 83.4	5.7 5.7	6.4	1	6 5		77 77				<0.2	2.5
					Surface	1.0	0.9	94	28.8	28.8	8.0	8.0	19.8	, (97.7 97.5	6.8	3.3		4		73				<0.2	1.8
C3	Sunny	Moderate	10:15	13.1	Middle	1.0 6.6	1.0 0.6	98 90	28.8 27.6	27.6	8.0 7.9	7.9	19.8 25.5 25.5	. 8	88.9	6.7	2.5	2.9	6 4	6	73 75	75	822096	817808	<0.2 <0.2	<0.2
00	ouy	Modorato	10.10			6.6 12.1	0.6 1.3	94 63	27.6 26.9		7.9 7.9		25.5	3	88.9 87.6 87.7	6.1 5.9	2.5	- 2.0	6 8	Ĭ	76 77	, ,	022000	017000	<0.2	1.9
					Bottom	12.1	1.4 0.5	66 177	26.9	26.9	7.9 7.9	7.9	29.3	3	70.5	6.0 6.0 5.5	2.7 6.4	<u> </u>	6		77 75				<0.2	1.7
					Surface	1.0	0.6	188	28.8	28.8	7.9	7.9	21.0	7	9.2	5.4	6.4		6		75				<0.2	1.9
IM1	Cloudy	Calm	11:23	6.8	Middle	3.4	0.2	200 213	27.6 27.6	27.6	7.9	7.9	25.0 25.0 25.0		74.6	5.1	8.8	9.1	7	7	77 77	77	818364	806470	<0.2	<0.2
					Bottom	5.8 5.8	0.1	183 186	27.3 27.3	27.3	7.9 7.9	7.9	26.2 26.2	2 7	75.6 75.6	5.2 5.2 5.2	12.0	1	8		78 79				<0.2	1.6
					Surface	1.0	0.7	199 203	29.8 29.7	29.8	8.0	8.0	16.2 16.2	, (96.3 95.9 96.1	6.7	6.1		5 7		75 75				<0.2	2.4
IM2	Cloudy	Moderate	11:36	8.1	Middle	4.1	0.6	210	28.2	28.2	7.9	7.9	20.5	. 8	80.6	5.6	8.1	8.2	5	6	76	76	818841	806185	<0.2	3.2
	,				Bottom	4.1 7.1	0.6	222 160	28.2 27.6	27.6	7.9 7.9	7.9	20.6	3	80.6 87.8 87.8	5.6 6.0 6.0	8.1 10.3	-	6	_	77 78				<0.2	3.0
						7.1 1.0	0.1	163 229	27.6 30.1		7.9 7.9		25.6	3	37.8	6.0 0.0 7.2	10.3 5.5	<u> </u>	6		77 75				<0.2	3.3
					Surface	1.0	0.6	233	30.1	30.1	7.9	7.9	15.7	1	03.5	7.2	5.5	1	4		75				<0.2	3.5
IM3	Cloudy	Moderate	11:44	7.8	Middle	3.9	0.7	226 248	29.5 29.5	29.5	8.0	8.0	16.3 16.3	9	91.1	6.4	8.0	8.8	3	4	77 76	77	819423	806014	<0.2	<0.2 3.0 2.9
					Bottom	6.8	0.4	227 227	28.0 28.0	28.0	7.9	7.9	22.4 22.4		92.6	6.4	12.8	1	5 6		78 78				<0.2	2.6
					Surface	1.0	0.4 0.5	212 212	30.5 30.5	30.5	8.1 8.1	8.1	13.4 13.4		20.6 20.6	8.4	6.6 6.6	1	5		75 75				<0.2	2.6 2.6
IM4	Cloudy	Moderate	11:52	7.6	Middle	3.8	0.4	205	29.2	29.2	7.9	7.9	18.4	9	90.2	6.3	7.4	9.6	6	7	76	76	819558	805028	<0.2	2.5
	,				Bottom	3.8 6.6	0.5 0.5	218 220	29.2 28.2	28.2	7.9 7.9	7.9	22.0		90.2	6.3	7.5 14.6	1	7 9		75 77				<0.2	2.5
						6.6	0.5	236 205	28.2		7.9		22.0		01.8	6.3	14.6 7.7	1	9 5		78 75				<0.2	2.4
					Surface	1.0	0.4	222 234	30.3 29.0	30.3	7.9 7.8	7.9	13.6	, 6	92.9	6.5 5.7 6.1	7.7 8.4		4 5		75 77				<0.2	2.9
IM5	Cloudy	Moderate	12:01	6.6	Middle	3.3	0.4	237	29.0	29.0	7.8	7.8	18.0 18.0	8	31.8	5.7	8.4	9.9	4	5	77	77	820579	804912	< 0.2	2.7
					Bottom	5.6 5.6	0.3	242 261	28.5 28.5	28.5	7.8	7.8	21.3 21.3		81.3	5.6 5.6	13.5		7		78 78				<0.2	2.8
					Surface	1.0	0.4	205 221	30.3 30.3	30.3	7.9	7.9	13.3		97.1 97.1	6.8	6.1	-	4 5		75 76				<0.2	2.9
IM6	Cloudy	Moderate	12:07	6.7	Middle	3.4	0.5	237	29.3	29.3	7.8	7.8	17.1	8	31.9	5.7	8.1	8.8	6	6	76	76	821046	805828	<0.2	-0.2 2.6
					Bottom	3.4 5.7	0.5 0.4	238 239	29.3 28.6	28.6	7.8 7.8	7.8	20.9 20.9	. 7	77.0 77.0	5.7 5.3 5.3	8.1 12.3	1	7		76 77				<0.2	2.6
						5.7	0.4	260 214	28.6		7.8		20.9	- /	7.0	5.3	12.3 6.5	1	9 5		77 75				<0.2	2.6
					Surface	1.0	0.8	219 231	29.5 28.2	29.5	7.9 7.9	7.9	15.1	9	94.7	6.6 5.5 6.1	6.5	7	4 5		75 76				<0.2	2.9
IM7	Cloudy	Moderate	12:17	6.8	Middle	3.4	0.5	236	28.2	28.2	7.9	7.9	21.1	7	78.9	5.5	9.7	9.3	6	5	77	77	821340	806818	< 0.2	2.9
					Bottom	5.8 5.8	0.5 0.5	235 248	27.8 27.8	27.8	7.9 7.9	7.9	23.3		81.7	5.6 5.6	11.7	<u> </u>	4 5		78 78				<0.2	2.4
					Surface	1.0	0.6	183 188	29.0 29.0	29.0	7.9 7.9	7.9	16.2 16.2		89.2 89.2	6.3	4.8 4.8	+	4 5		73 73				<0.2	2.1
IM8	Sunny	Moderate	11:16	7.6	Middle	3.8	0.4	193	28.5	28.5	7.9	7.9	21.0	. 8	84.3	5.8	6.6	7.2	6	5	75	75	821697	807845	<0.2	-0.2 2.4
	-				Bottom	3.8 6.6	0.4	203 206	28.5 28.1	28.1	7.9 7.9	7.9	20.7	. 8	34.2 04.3 35.0 85.2	5.8 5.9 5.9	6.7 9.9	1	6		76 76				<0.2	2.1
A: Depth-Ave					DOLLOIN	6.6	0.1	214	28.1	20.1	7.9	7.3	22.0	. 8	35.4	5.9	10.2		5		77				<0.2	1.8

Water Qua Water Qua			lts on		06 June 17	during Mid-	Ebb tide																				
Monitoring	Weather	Sea	Sampling	Water		-	Current Speed	Current	Water Ter	mperature (°C)	pН	1	Salini	ty (ppt)		turation	Disso		Turbidity(NTU) Sus	pended So (mg/L)		Alkalinity opm)	Coordinate	Coordinate	Chromiur (µg/L)	m Nickel (μg.
Station	Condition	Condition	Time	Depth (m)	Sampling De	epth (m)	(m/s)	Direction	Value	Average	Value A	verage	Value	Average		,	Value	DA	Value	DA V	alue D			HK Grid (Northing)	HK Grid (Easting)	Value D	A Value D
					Surface	1.0	0.7	162	29.4	29.4	8.0	8.0	15.6	15.6	89.0	89.0	6.2		5.3		3	74				<0.2	2.4
IM9	Sunny	Moderate	11:10	7.3	Middle	1.0 3.7	0.7 0.3	171 154	29.4 28.0	28.0	8.0 7.9		15.6 23.0	23.0	89.0 79.8	79.8	6.2 5.5	5.9	5.3 8.3		4	73 76	75	822093	808817	<0.2	2.4
	ou,	modorato		7.0		3.7 6.3	0.4	165 134	28.0 27.9		7.9		23.0		79.8 84.4		5.5 5.8		8.3 9.8		3	75 77	- "	022000	000017	<0.2	2.4
					Bottom	6.3	0.3	136	28.0	28.0	7.9	7.9	23.1	23.1	84.7	84.6	5.8	5.8	9.7		4	77				<0.2	2.2
					Surface	1.0	0.7	143 146	29.1 29.1	29.1	8.0	8.0	16.3 16.3	16.3	88.4 88.4	88.4	6.2	6.0	6.9 6.9		4	73 73				<0.2	2.7
IM10	Sunny	Moderate	11:04	8.0	Middle	4.0	0.3	90 92	28.2 28.2	28.2	7.9	7.9	20.8	20.8	82.9 82.9	82.9	5.8 5.8	-	12.2 12.2	11.6	7	, 76 75	13	822232	809855	<0.2	2.5 2.6
					Bottom	7.0 7.0	0.5 0.5	129 131	28.1	28.1	7.9 7.9	7.9	22.4 22.4	22.4	88.6 88.6	88.6	6.1	6.1	15.8 15.8		10	77 77				<0.2	2.1
					Surface	1.0	0.6	128	29.1	29.1	7.0	7.9	15.6 15.6	15.6	88.3 88.3	88.3	6.2		5.4		6	74 73				<0.2	2.6
IM11	Sunny	Moderate	10:57	8.9	Middle	1.0 4.5	0.6	101	28.4	28.4	8.0	8.0	19.5	19.5	82.7	82.7	5.8	6.0	5.4 8.6		5 5	75	76	821498	810550	<0.2	2.4
						4.5 7.9	0.4	101 112	28.4		8.0		19.5		82.7 82.9		5.8 5.8		8.6 11.0		5	75 77				<0.2	2.2
					Bottom	7.9 1.0	0.3	120 119	28.3 28.9	28.3	8.0	8.0	20.3	20.3	84.0 85.3	83.5	5.8 6.0	5.8	10.1		5	77 73				<0.2	2.2
					Surface	1.0	0.6	120	28.9	28.9	7.9	7.9	16.3	16.3	85.3	85.3	6.0	5.9	9.9		3	73				<0.2	2.3
IM12	Sunny	Moderate	10:52	8.3	Middle	4.2	0.4	98 100	28.4 28.4	28.4	8.0		20.2	20.2	83.8 83.8	83.8	5.8 5.8	-	15.3 15.3		4 5	75	- 75	821180	811505	<0.2	2.0 2.0
					Bottom	7.3 7.3	0.2 0.2	81 84	28.4 28.4	28.4	8.0		20.5	20.5	86.4 86.4	86.4	6.0	6.0	16.1 16.1		9 7	76 76				<0.2	1.7
					Surface	1.0	0.5	80	28.7	28.7	9.0	8.0	19.1	19.4	91.3	91.4	6.4		4.7		4	73				<0.2	1.9
SR2	Sunny	Moderate	10:31	4.9	Middle	-	0.6	82	- 28.7	-	-		-	-	91.4	-	6.3	6.4	4.7	5.0	6 	73	75	821448	814150	- <0	2.0
	,				Bottom	3.9	0.4	71	28.5	28.5	7.9	7.9	20.8	20.8	93.5	93.5	6.5	6.5	5.2		4	77				<0.2	2.1
						3.9 1.0	0.4	76 193	28.5		7.9		20.8		93.5 84.6		6.5	0.5	5.2 6.0		5	77				<0.2	1.9
					Surface	1.0	0.8	193	28.8	28.8	7.9	7.9	16.1	16.1	84.3	84.5	6.0	5.8	6.1 8.4		6	-				-	-
SR3	Sunny	Moderate	11:25	8.4	Middle	4.2	0.5 0.6	192 195	28.0 28.0	28.0	7.9	7.9	23.0	23.0	79.9 79.9	79.9	5.5 5.5		8.4		5 4	-	-	822160	807555	-	
					Bottom	7.4	0.7	191 206	27.9 27.9	27.9	7.9	7.9	23.5	23.5	84.6 84.9	84.8	5.8 5.8	5.8	8.6 8.5		5 7	-				-	-
					Surface	1.0	0.2	59 62	30.1 30.1	30.1	7.9 7.9	7.9	16.0 16.0	16.0	90.1	90.1	6.2	L	6.3 6.3		6 5	-				-	-
SR4A	Cloudy	Calm	10:38	9.1	Middle	4.6	0.3	51	27.9	27.9	7.9	7.9	25.0	25.0	76.2	76.2	5.2	5.7	8.8	10.3	6 .	. =		817176	807821	-	-
	,				Bottom	4.6 8.1	0.3	52 76	27.9 27.6	27.6	7.9	7.0	25.0 26.4	26.4	76.2 75.8	75.8	5.2 5.2	5.2	8.8 15.7		8	-				-	-
						8.1 1.0	0.3	82 43	27.6 29.8		7.9		26.4 17.6		75.8 104.6		5.2 7.2	5.2	15.7 7.5		6	-				-	-
					Surface	1.0	0.0	44	29.8	29.8	8.0	8.0	17.6		104.6	104.6	7.2	7.2	7.5		6	-				-	-
SR5A	Cloudy	Calm	10:12	5.4	Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	9.5	- 6	-	-	816584	810687	-	
					Bottom	4.4	0.1	127 127	29.0 29.0	29.0	7.9	7.9	20.4	20.4	103.7	103.8	7.1 7.2	7.2	11.5 11.6		7 5	-				-	-
					Surface	1.0	0.2	63 68	29.3 29.3	29.3	8.0	8.0	19.4 19.4	19.4	105.3 105.1	105.2	7.2 7.2		10.4 10.5		5 3	-				-	-
SR6	Cloudy	Calm	09:43	4.4	Middle	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	12.5	- ,			817880	814652		. 🖃 .
					Bottom	3.4	0.1	39	29.2	29.2	7.9	7.9	19.7	19.7	105.1	105.1	7.2	7.2	14.6		4	-				-	-
						3.4 1.0	0.1	42 50	29.2		7.9		19.7 25.6		105.1 93.6		7.2 6.4	7.2	14.6		5	-				-	-
					Surface	1.0	0.4	50 349	27.7	27.7	7.9	7.9	25.5 28.8		91.7	92.7	6.3	6.0	2.0		6	_				-	-
SR7	Sunny	Moderate	09:44	16.1	Middle	8.1	0.3	321	26.9	26.9	7.9	7.9	28.8	28.8	83.6 83.6	83.6	5.7		3.2	2.9	6	-	-	823643	823761	-	-
					Bottom	15.1 15.1	1.4	58 62	26.8 26.8	26.8	7.8		29.2 29.2	29.2	82.9 82.9	82.9	5.6 5.6	5.6	3.7 3.7		7 5	-	+			-	-
					Surface	1.0	0.1	273 298	29.0 29.0	29.0	9.0	8.0	19.3	19.3	93.0 93.0	93.0	6.4	-	9.2		5	-				-	-
SR8	Sunny	Moderate	10:44	5.5	Middle	-	-		- 29.0	-	-	-	-	-	-	-	-	6.4	-	9.8			١.	820399	811598	-	
					Bottom	4.5	0.1	326	28.8	28.8	8.0	8.0	19.6	19.6	94.4	94.4	6.5	6.5	10.4	E	6	' -				-	-
DA: Depth-Ave					Dottom	4.5	0.1	330	28.8	20.0	8.0	0.0	19.6	13.0	94.4	34.4	6.5	0.0	10.4		5	-				-	-

Water Quality Monitoring Results on 08 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 30.6 1.0 0.6 213 17.0 106.6 9.5 -02 16 Surface 30.4 8.1 17.1 106.8 75 1.0 0.7 224 30.2 8.1 106.9 7.3 9.5 13 -02 16 77 77 3.1 0.6 209 29.5 8.0 20.3 84.8 5.8 13.8 13 < 0.2 1.7 C1 18:46 6.1 Middle 8.0 20.3 84.5 14.1 13 77 815639 804259 Fine Moderate 3.1 0.6 229 29.5 8.0 20.3 84.2 5.7 14.3 12 <0.2 1.8 5.1 0.5 207 28.8 7.9 22.6 18.6 16 78 <0.2 1.4 7.9 22.6 80.4 5.5 Rottom 28.8 0.6 28.8 7.9 22.6 80.4 5.5 18.7 14 <0.2 1.5 1.0 173 8.0 10 74 1.3 29.4 12.7 89.8 6.4 5.4 <0.2 2.8 Surface 29.4 8.0 12.7 89.8 8.0 12.7 89.8 6.4 74 2.6 1.0 1.4 186 29.4 5.3 8 <0.2 6.2 7.4 76 76 4.9 1.1 178 28.9 7.9 19.6 85.0 5.9 <0.2 2.3 C2 Sunny Moderate 17:41 9.7 Middle 28.9 7.9 19.6 85.0 76 825685 806927 2.5 7.9 4.9 1.1 185 28.9 19.6 85.0 5.9 7.4 8 < 0.2 2.6 8.7 0.4 160 28.1 7.9 23.2 80.8 5.6 9.4 78 < 0.2 2.2 7.9 23.2 80.8 5.6 Bottom 28.1 8.7 0.4 160 28.1 7.9 9.4 9 78 2.4 74 0.5 29.3 5.5 10 1.8 8.2 20.1 100.0 6.9 < 0.2 Surface 29.3 8.2 20.1 100.0 1.0 0.6 274 8.2 20.1 100.0 6.9 5.5 74 2.1 29.3 8 < 0.2 75 76 7.5 0.5 265 28.1 8.0 24.2 82.7 5.7 7.6 8 < 0.2 1.7 822127 817790 C3 Sunny Moderate 19:30 15.0 Middle 28.1 8.0 24.2 82.7 7.5 5.7 0.5 281 28.1 8.0 24.2 82.7 7.6 9 < 0.2 1.7 14.0 0.4 235 27.8 8.0 26.1 82.5 5.6 8.7 10 77 <0.2 1.6 Bottom 27.8 8.0 26.1 82.5 5.6 78 14.0 0.4 248 27.8 8.0 26.1 82.5 5.6 8.7 8 < 0.2 1.5 1.0 0.8 190 30.7 13.3 11 75 2.0 8.1 16.5 102.6 7.0 <0.2 16.5 102.4 Surface 30.7 8.1 8.1 16.5 102.1 7.0 75 1.8 1.0 0.8 198 30.7 13.5 12 <0.2 77 3.2 0.2 208 28.5 7.9 16.8 82.4 6.1 15.4 11 < 0.2 1.8 7.9 16.8 81.2 IM1 Fine Moderate 18:27 64 Middle 29.5 15.5 77 818343 806450 7.9 16.8 80.0 5.9 78 <0.2 1.9 3.2 0.2 222 30.4 15.5 11 24.7 5.4 0.1 293 27.9 7.9 24.9 5.7 5.5 17.6 22 78 <0.2 1.6 Bottom 28.4 7.9 82.6 5.6 5.4 0.2 304 28.8 79 24.4 82 1 17.8 24 78 <0.2 17 1.0 0.9 217 30.9 8.8 75 8.1 15.9 118.8 <0.2 Surface 30.9 8.1 15.9 118.8 1.0 0.9 8.1 15.9 118.7 8.1 6 75 <0.2 2.1 218 30.9 8.8 12.8 77 2.5 30.3 8.1 16.6 110.5 7.6 <0.2 6 18:21 74 8.1 110.5 818848 806195 IM2 Fine Moderate Middle 30.3 16.6 77 23 3.7 0.8 226 30.3 8.1 16.6 7.6 12.8 77 <0.2 78 64 0.4 212 29.5 79 20.1 98.4 6.7 20.5 7 < 0.2 2.5 Bottom 7.9 20.1 98.7 6.8 7.9 6.8 6.4 20.0 98.9 20.0 78 24 0.4 220 29.5 -n 2 1.0 0.7 226 30.4 8.1 16.2 102.7 11.0 9 75 <0.2 2.3 Surface 30.4 8.1 16.2 102.7 1.0 0.8 238 30.4 8.1 16.2 102.7 7.1 11.0 76 <0.2 2.1 3.7 0.7 228 29.9 15.4 77 <0.2 2.0 8.1 IM3 18:14 74 Middle 29 9 8 1 17.0 97.4 14 6 819427 806031 22 Fine Moderate 0.7 229 29.9 8.1 97.3 6.7 15.5 78 <0.2 2.2 9 78 6.4 0.5 211 20.8 17.4 10 <0.2 2.3 29.2 7.9 84.3 5.8 7.9 20.8 84.4 5.8 Bottom 29.2 5.8 7.9 84.4 79 2.1 6.4 0.5 10 < 0.2 215 29.2 1.0 0.8 216 29.8 7.9 97.9 97.9 6.8 10.9 75 <0.2 2.4 Surface 29.8 7.9 16.7 97.9 7.9 10.9 75 1.0 0.8 237 29.8 16.7 6.8 8 < 0.2 2.6 2.4 3.6 0.6 229 29.4 7.9 98.9 6.9 13.2 77 <0.2 IM4 18:06 7.1 7.9 16.7 98.0 13.2 819556 805039 2.3 Fine Moderate Middle 30.1 3.6 0.6 233 30.8 7.9 16.5 97.0 6.6 13.4 78 <0.2 0.5 222 29.2 7.9 15.5 78 <0.2 2.0 18.6 101.3 7.0 8 7.9 18.6 101.5 Botton 29.2 6.1 0.6 230 7.9 18.6 101.7 7.0 15.5 79 2.2 29.2 8 < 0.2 102.0 1.0 0.6 234 29.7 8.1 17.2 7.1 10.3 8 75 < 0.2 2.2 17.3 Surface 29.7 8.1 100.9 76 17.3 99.8 < 0.2 2.1 1.0 0.6 255 29.7 8.1 6.9 10.4 8 77 3.1 0.4 248 28.4 7.9 22.0 77.1 5.3 16.4 10 <0.2 2.2 IM5 Fine Moderate 17:54 6.1 Middle 28.4 7.9 22.0 77.1 15.5 820551 804905 2.1 3.1 0.4 249 28.4 7.9 22.0 77.1 5.3 16.5 78 <0.2 2.1 5.1 0.4 7.9 19.7 78 <0.2 2.1 245 28.3 22.2 77.3 5.3 77.3 7.9 22.2 5.3 Bottom 28.3 7.9 19.8 78 0.4 28.3 22.2 10 <0.2 2.0 1.0 0.5 231 29.2 8.0 19.1 94.7 6.5 12.0 8 <0.2 1.6 29.2 8.0 19.1 94.6 Surface 8.0 94.5 6.5 <0.2 1.7 0.5 19.1 12.1 1.0 239 29.2 8 75 77 77 3.0 0.6 245 28.4 7.9 22.0 77.8 5.4 16.4 10 <0.2 2.0 IM6 17:45 Middle 28.4 22.0 77.8 821040 805815 Moderate 6.0 3.0 0.6 248 28.4 7.9 22.0 77.8 5.4 16.7 11 < 0.2 1.9 5.0 0.5 248 28.3 19.8 78 <0.2 1.9 22.4 5.3 7.9 22.4 77.7 Bottom 28.3 5.0 0.5 7.9 22.4 5.4 19.7 78 <0.2 2.1 28.3 0.8 29.6 7.8 17.2 5.9 11.4 <0.2 2.2 Surface 29.6 7.8 17.7 84.9 18.2 76 2.1 1.0 0.9 247 7.8 84.8 5.8 11.6 <0.2 29.6 77 77 2.3 3.8 0.6 242 29 4 7.8 19.6 82.3 5.6 16.5 <0.2 IM7 Fine Moderate 17:37 7.5 Middle 29.4 7.8 19.6 82.3 821329 806835 2.2 3.8 7.8 5.7 0.7 265 29.4 196 82.3 16.5 6 <n 2 6.5 0.5 241 29.4 7.9 19.9 82.1 5.6 18.2 12 79 <0.2 2.0 Bottom 29.4 7.9 19.9 82.2 5.6 6.5 0.5 29.3 7.9 19.9 82.2 5.6 18.1 13 79 <0.2 2.0 1.0 0.8 191 29.8 8.1 6.6 74 <0.2 2.4 8 1 15.6 97.8 Surface 29.8 0.8 29.8 8.1 97.8 6.8 6.6 74 <0.2 2.3 1.0 203 2.1 3.7 201 76 0.6 28.8 8.0 20.4 86.9 6.0 8.9 8 < 0.2 821705 IM8 Sunny Moderate 18:05 7.4 Middle 28.8 8.0 20.4 86.9 8.5 76 807819 2.2 3.7 8.0 20.4 86.9 6.0 8 9 76 <0.2 0.6 220 28.8 6.4 0.4 236 28.7 8.0 21.0 89.6 6.2 10.0 10 78 <0.2 2.0 Bottom 28.7 8.0 21.0 89.6 6.2 6.4 0.4 254 28.7 2.2

DA: Depth-Average

Water Quality Monitoring Results on 08 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.6 29.3 1.0 176 8.0 18.7 90.0 62 7.3 -02 28 Surface 29.3 8.0 18.7 90.0 18.7 74 1.0 0.6 176 29.3 8.0 90.0 6.2 7.3 -02 28 3.2 0.4 190 28.7 8.0 20.7 86.0 5.9 8.6 8 76 < 0.2 2.9 IM9 18:12 6.3 Middle 8.0 20.7 86.0 8.6 76 822093 808816 2.7 Sunny Moderate 0.4 205 28.7 8.0 20.7 86.0 5.9 8.6 8 76 <0.2 2.8 5.3 0.3 195 28.6 8.0 21.1 10.0 8 78 <0.2 2.4 21.1 87.6 6.0 Rottom 28.6 8.0 28.6 8.0 87.6 10.0 <0.2 1.0 0.7 16.5 73 134 29.9 8.1 101.6 7.0 6.9 <0.2 2.5 8 Surface 29.9 8.1 16.5 101.6 101.6 8.1 16.5 7.0 74 2.6 1.0 0.7 141 29.9 6.9 8 <0.2 76 3.3 0.5 142 28.8 8.0 20.4 86.9 6.0 8.4 <0.2 2.4 IM10 Sunny Moderate 18:22 6.5 Middle 28.8 8.0 20.4 86.9 8.2 76 822247 809826 2.4 76 3.3 0.5 148 28.8 8.0 20.4 86.9 6.0 8.4 < 0.2 2.2 5.5 0.4 141 28.5 8.0 22.2 87.4 6.0 9.4 9 77 <0.2 2.3 28.5 8.0 22.2 87.4 6.0 Bottom 5.5 0.4 146 28.5 8.0 87.4 9.4 12 77 2.3 74 0.2 5.0 10 29.7 8.1 16.5 104.3 < 0.2 2.3 Surface 29.7 8.1 16.5 104.2 1.0 0.3 168 8.1 16.5 104.0 7.2 5.0 74 <0.2 2.4 29.7 9 2.0 4.0 0.3 150 29.5 8.1 17.0 94.3 6.6 5.7 8 76 < 0.2 17.0 821484 810547 IM11 Sunny Moderate 18:31 8.0 Middle 29.5 8.1 94.3 5.7 2.3 5.7 4.0 0.3 151 29.5 8.1 94.3 6.6 6 76 < 0.2 7.0 0.6 122 28.7 8.0 21.3 92.2 6.3 6.4 9 78 <0.2 2.3 Bottom 28.7 8.0 21.3 92.2 6.3 7.0 0.7 130 28.7 8.0 21.3 922 6.3 6.4 78 < 0.2 22 1.0 0.2 152 29.7 15.9 5.0 74 <0.2 2.2 8.1 102.2 6 15.9 102.1 Surface 29.7 8.1 8.1 15.9 101.9 7.1 74 2.3 1.0 0.2 155 29.7 5.0 <0.2 2.4 4.3 0.3 125 29.1 8.0 18.5 88.9 6.2 6.1 9 76 <0.2 18.5 821154 IM12 Sunny Moderate 18:37 8.5 Middle 29 1 8.0 88 9 76 811535 2.3 8.0 18.5 88.9 6.2 76 <0.2 2.4 4.3 0.3 29.1 6.1 2.2 7.5 0.5 98 28.7 8.0 21.3 90.2 6.2 8.4 78 <0.2 Bottom 21.3 90.2 7.5 0.5 106 28.7 8.0 21.3 90.2 6.2 8.4 q 78 <0.2 2.0 1.0 0.2 148 29.8 4.6 74 2.0 8.2 7.4 <0.2 Surface 29.8 8.2 17.2 107.4 1.0 8.2 17.2 7.4 9 74 2.0 0.2 148 29.8 4.6 <0.2 SR2 19:05 4.3 821466 814180 Sunny Moderate Middle 76 20 3.3 5.2 5.2 78 2.0 0.3 211 29.0 8 1 19.6 6.7 <0.2 Bottom 29.0 8.1 19.6 97.1 6.7 3.3 8.1 97 1 6.7 0.3 220 196 78 29.0 9 -02 1.8 1.0 1.1 181 30.2 8.1 14.9 99.3 6.9 6.2 9 14.9 Surface 30.2 8.1 99.3 1.0 1.1 198 30.2 8.1 14.9 99.3 6.9 6.2 4.0 8.0 28.5 7.9 8.8 21.2 SR3 18:00 79 Middle 28.5 7.9 21.2 82.5 822144 807576 Moderate Sunny 4.0 0.8 186 28.5 7.9 21.2 82.5 5.7 8.8 6 6.9 0.5 229 7.9 22.3 28.4 85.7 5.9 8.8 6 22.3 85.8 5.9 Bottom 28.4 7.9 7.9 5.9 85.9 8.8 6.9 0.5 241 28.4 8 0.7 1.0 250 29.9 8.2 8.0 Surface 29.9 8.2 19.8 117.9 8.2 11.5 1.0 0.8 258 29.9 10.8 117.8 8.0 9 3.6 0.7 256 28.7 8.0 22.7 88.6 15.2 SR4A 19:03 7.1 28.7 22.7 88.6 15.0 817169 807806 Fine Moderate Middle 8.0 10 3.6 0.7 274 28.7 8.0 22.6 88.5 6.0 15.0 11 0.4 28.0 18.5 12 7.9 24.9 81.8 5.6 82.0 Bottom 28.0 7.9 24.9 5.6 6.1 0.4 275 7.9 5.6 18.5 12 28.0 24.9 82.1 1.0 0.2 301 30.3 8.3 19.0 139.7 9.5 9.0 8 Surface 30.3 8.3 19.0 139.7 1.0 318 8.3 9.5 8 0.2 30.3 19.0 139.7 9.1 SR5A Fine Moderate 19:25 5.3 Middle 10 816603 810681 4.3 0.2 286 28.7 14.6 13 8.0 22.2 93.6 6.4 6.4 28.7 8.0 22.2 93.7 Bottom 93.7 6.4 4.3 0.2 310 28.7 8.0 22.2 14.6 12 1.0 0.1 229 29.8 8.2 20.0 8.8 14.8 9 129.7 29.8 8.2 20.0 129.6 Surface 8.2 20.0 129.4 8.8 1.0 0.1 238 29.8 14.9 9 SR6 19:55 4.2 Middle 817892 814680 Moderate 0.1 29.3 19.5 10 20.9 29.3 8.1 20.9 112.1 7.6 Bottom 3.2 0.1 112.1 19.4 10 196 29.3 0.2 29.4 8.2 20.3 102.4 4.5 Surface 29 4 8.2 20.3 102.4 20.3 1.0 0.2 205 8.2 102.4 7.0 4.5 29.4 5.0 10.2 0.3 192 28.4 8 1 23.1 90.0 6.2 4 SR7 Sunny Moderate 20:04 20.3 Middle 28.4 8.1 23.1 89.9 5.0 823630 823739 10.2 8.1 5.0 5 0.3 198 28.4 23.1 89.8 6.1 19.3 0.4 188 27.7 8.0 26.5 88.4 6.0 5.4 4 Bottom 27.7 8.0 26.5 88.4 6.0 19.3 0.4 200 27.7 8.0 26.5 88 4 6.0 5.4 1.0 0.2 165 29.8 8.2 16.9 8.2 16.9 Surface 29.8 118.4 1.0 0.2 170 29.8 8.2 16.9 118.4 8.2 6.7 6 8.2 SR8 Sunny Moderate 18:45 4.6 Middle 820414 811587 3.6 0.2 187 29.9 8.1 104.1 10.9 29.9 8.1 18.7 104.1 7.1 104.1 3.6 0.2 188 29.9

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 08 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Turbidity(NTU) Sampling Water Water Temperature (°C) Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 30.8 1.0 0.6 195 8.0 172 6.6 75 1011 69 -n 2 2.0 Surface 30.8 17.2 100.9 1.0 0.6 209 30.8 8.0 100.6 6.8 6.7 76 <0.2 2.2 3.8 0.5 203 28.3 7.9 22.9 85.7 5.9 9.4 8 77 <0.2 2.4 C1 7.5 28.7 7.9 22.7 85.1 10.1 815605 804230 1.9 Fine Moderate 12:00 Middle 77 3.8 0.6 208 29.1 7.9 22.5 84.5 5.7 9.5 77 <0.2 2.3 6 6.5 78 <0.2 0.3 221 27.4 7.9 27.2 85.9 5.8 14.0 10 1.2 Botton 7.9 27.2 86.2 79 59 6.5 0.3 233 27.4 86.4 14.2 8 78 <0.2 1.3 1.0 171 1.0 29.8 8.1 15.6 99.3 6.9 5.8 74 <0.2 2.3 15.9 29.8 8.1 99.1 Surface 16.2 98.9 10 74 2.2 1.0 1.1 172 29.8 8.1 6.9 5.8 <0.2 6.3 76 75 5.2 1.0 162 28.2 7.9 23.8 83.0 5.7 7.4 10 <0.2 2.3 825701 806945 C2 Sunny Moderate 13:42 10.4 Middle 28.2 7.9 23.8 83.0 76 21 5.7 5.2 173 7.9 23.8 7.4 1.0 8 < 0.2 28.2 83.0 94 1.3 166 28.2 7.9 24.2 84.8 5.8 7.5 9 77 <0.2 1.8 Bottom 7.9 24.2 84.8 5.8 94 1.5 174 28.2 79 24.2 84.8 5.8 7.5 10 77 <0.2 2.0 1.0 0.3 83 29.0 8.1 22.0 6.6 3.6 8 74 <0.2 1.6 96.2 Surface 29.0 8.1 22.0 96.2 1.0 0.3 8.1 22.0 96.2 6.6 74 <0.2 1.3 29.0 3.6 8.2 0.3 58 5.0 76 <0.2 1.0 27.3 8.0 28.6 84.9 8 C3 16.3 27.3 8.0 28.6 84.9 822112 817785 11:30 Middle 12 Sunny Moderate 84.9 5.7 75 1.2 8.2 0.3 27.3 8.0 28.6 5.0 <0.2 63 77 77 15.3 7.9 7.9 5.5 5.5 5.6 5.6 0.9 1.2 67 30.7 81.6 81.6 <0.2 26.7 9 Bottom 26.7 7.9 30.7 81.6 5.5 15.3 12 26.7 8 <0.2 1.0 1.0 0.6 194 30.3 8.0 19.0 6.2 9.1 75 <0.2 1.3 30.4 8.0 18.9 90.9 Surface 1.0 0.6 201 30.4 8.0 18.8 90.6 6.1 9.1 6 76 <0.2 1.6 1.8 4.1 0.4 28.3 5.0 13.0 10 77 < 0.2 12:16 7.9 74.2 818337 806475 IM1 Fine Moderate 8 1 Middle 28.3 25.4 7.9 25.4 74.2 5.0 77 4.1 0.4 203 28.3 13.0 <0.2 8 78 7.1 0.1 7.9 5.3 13.6 12 <0.2 1.6 206 27.6 26.2 77.3 Botton 27.7 7.9 26.2 77.4 5.3 7.9 26.2 5.3 217 77.5 10 78 7.1 0.1 27.7 13.6 < 0.2 1.6 1.0 0.6 200 30.7 8.1 15.4 100.2 6.9 7.9 75 75 <0.2 1.9 Surface 15.4 99.8 1.0 0.6 209 30.6 8.1 15.4 99.4 6.8 8.0 8 <0.2 2.1 4.2 0.5 200 28.6 7.9 22.9 78.3 5.4 12.2 8 77 <0.2 1.7 12.5 IM2 12:28 8.3 Middle 28.6 7.9 22.9 78.3 818840 806176 Fine Moderate 4.2 0.5 28.6 7.9 22.9 78.3 12.3 77 <0.2 1.8 7.3 0.3 28.1 7.8 25.8 78.4 17.2 78 <0.2 1.6 5.3 25.8 78.7 Bottom 28.1 7.8 78.6 5.3 7.3 7.8 25.8 5.3 17.3 78 1.5 0.3 180 28.1 < 0.2 1.0 <0.2 0.7 212 31.0 8.1 14.3 120.0 8.2 8.2 6.3 75 2.0 14.3 Surface 31.0 8.1 119.7 14.3 1.0 0.7 212 31.0 8.1 6.4 75 1.8 3.9 0.5 210 28.8 7.9 22.1 82.3 5.6 9.7 8 78 <0.2 1.3 IM3 12:38 7.7 Middle 28.8 7.9 22.1 82.3 819398 806026 Fine Moderate 3.9 0.5 28.8 7.9 22.1 5.6 9.8 78 <0.2 1.5 0.4 19.6 79 <0.2 28.3 24.5 5.3 8 Bottom 28.3 7.8 24.5 77.4 5.3 5.3 79 6.7 0.5 212 28.3 7.8 19.6 8 <0.2 1.1 75 75 1.0 0.8 202 30.2 8.0 < 0.2 15.7 109.5 7.6 6.1 7 1.9 Surface 30.2 8.0 15.7 109.5 1.0 8.0 15.7 7.6 1.9 0.8 204 30.2 109.5 6.1 < 0.2 3.4 0.6 204 29.4 7.9 19.5 91.5 6.3 9.3 7 77 < 0.2 1.9 IM4 12:46 6.7 Middle 19.5 91.5 11.3 819569 805025 Fine Moderate 3.4 0.7 215 29.4 7.9 19.5 91.5 6.3 9.3 77 <0.2 2.0 5.7 0.2 194 28.6 7.9 24.2 84.0 18.5 78 <0.2 2.0 Bottom 28.6 7.9 24.2 84.1 5.7 0.3 7.9 24.2 84.2 5.7 18.6 78 <0.2 2.3 28.6 1.0 0.6 213 2.1 30.2 7.9 <0.2 16.5 Surface 30.2 8.0 98.2 1.0 0.6 217 30.2 8.0 16.5 98.1 6.8 8.2 75 <0.2 2.3 77 5.6 5.6 <0.2 1.9 3.2 0.6 202 29.3 7.9 19.9 81.0 10.5 8 IM5 Moderate 12:59 6.4 Middle 29.3 7.9 19.9 81.0 9.8 820583 804912 2.0 79 19.8 81.0 32 0.6 202 29.3 10.5 8 5.4 0.2 242 28.9 7.9 21.6 82.2 5.6 10.8 6 78 <0.2 1.8 Bottom 28.9 7.9 21.6 82.3 5.4 0.2 261 28.9 7.9 21.6 82.3 5.6 10.8 78 <0.2 2.1 30.1 8.8 7.9 16.5 92.8 Surface 30.1 1.0 0.5 229 30.1 7.9 16.5 92.6 6.4 8.9 75 <0.2 2.1 6 3.9 0.6 200 29.2 7.8 20.0 80.1 5.5 11.9 77 77 <0.2 1.9 7.8 80.1 821052 805840 IM6 Fine Moderate 13:06 7.7 Middle 29.2 20.0 2.0 7.8 5.5 3.9 0.6 218 20.0 80.1 11.9 < 0.2 29.2 6.7 0.4 231 28.7 7.8 22.8 79.2 5.4 19.2 10 78 <0.2 2.0 Bottom 28.7 7.8 22.8 79.3 5.4 6.7 0.4 245 28.7 7.8 22.8 79.4 5.4 19.5 11 78 <0.2 19 1.0 0.6 211 30.3 7.9 17.2 90.4 6.2 8.8 75 <0.2 2.2 Surface 30.4 7.9 17.2 90.3 0.7 30.4 7.9 90.1 6.2 8.8 75 <0.2 2.0 3.9 0.4 245 29.3 7.9 20.1 5.5 10.6 8 77 <0.2 1.6 80.0 IM7 13:13 7.9 20.1 80.0 10.1 821358 806829 2.0 Fine Moderate 7.8 Middle 29.3 3.9 7.9 20.0 80.0 5.5 10.6 77 <0.2 1.9 0.4 248 29.3 11 6.8 0.3 78 <0.2 2.0 29.0 7.8 21.1 82.2 5.6 5.7 10.8 Botton 29.0 7.8 21.1 82.3 5.7 7.8 21.0 82.4 10.8 79 < 0.2 6.8 0.3 292 29.0 2.0 1.0 0.6 172 29.1 8.0 6.0 6.0 <0.2 1.9 Surface 29.1 8.0 17.9 85.9 1.0 0.6 29.1 8.0 17.9 85.9 6.0 6.0 73 <0.2 2.0 7.6 0.3 28.5 21.1 80.6 5.6 75 <0.2 13:11 821695 807824 IM8 Sunny Moderate 8.0 Middle 28.5 7.9 21.1 80.6 75 1.8 7.9 5 76 1.7 4.0 0.4 176 28.5 21.1 80.6 5.6 7.6 <0.2 77 77 7.0 0.1 164 28.2 7.9 23.9 85.1 5.8 7.8 6 < 0.2 1.8 7.9 23.8 Rottom 28.2 85.3 5.8 7.0 7.9 5.8 7.8 169 85.4 1.9 0.1 28.2 < 0.2

DA: Depth-Averaged

Marcial Marc	Water Qual Water Qual			lts on		08 June 17	during Mid-E	Ebb tide																				
Section Contact Cont					Water			Current	Current	Water Te	mperature (°C)	pl	+	Salini	ity (ppt)					Turbidity(I	NTU)				Coordinate			Nickel (μg/L)
Marcon Model 100 21 Model 100 21 Model 100 21 Model 100 22 100 22 23 Model 100 23 Model		Condition	Condition	Time	Depth (m)	Sampling De	pth (m)			Value	Average	Value A	Average	Value	Average		,	- 1	_	Value	DA	, ,						Value DA
Mary Martin Mar						Surface					29.4		8.0		17.2		89.0											
Miles	IM9	Sunny	Moderate	13:02	7.1	Middle	3.6	0.4	129	28.4	28.4	7.9	7.9	21.9	21.9	80.4	80.4	5.5	5.9	8.6	7.8	7	7	75 ₇₅	822107	808803	<0.2	2.1
Mile						Bottom	6.1	0.9	129	28.2	28.2	8.0		22.8	22.8	85.2	85.2	5.9	5.9	9.3		6		77			<0.2	1.8
Mile Surry Modeles 123 78 Modeles 123 78 Modeles 123 78 Modeles 124 78 Modeles 124 78 Modeles 125 78 Modeles 124 125 Modeles 125 M																			0.0									
Mill Survy Mocesse 12-34 Survy Mocesse							1.0	0.5	142	29.8		8.1		17.0		98.1		6.8	6.3	5.4		7		74			<0.2	2.0
Miles Mile	IM10	Sunny	Moderate	12:53	7.8	Middle	3.9	0.6	134	28.6	28.6	7.9	7.9	20.3	20.3	81.9	81.9	5.7		10.3	9.7	6	7	76	822240	809822	<0.2	2.0
M11 Sury Moderate 12-42 0.0 Marke 12-42 0.0 Ma						Bottom			97		28.2		7.9		22.7		83.8		5.8	13.3				77			<0.2	1.7
Mile Surry Moderate 12-62 9.0 Middle 4.5 6.4 103 260						Surface					29.6		8.1		17.2		94.8											1.8
Moderate 1,000 Moderate 12,04 B.A. Surface 1,000 B.A. 1,000 B	IM11	Sunny	Moderate	12:42	9.0	Middle	4.5	0.4	103	28.6	28.6	8.0	8.0	20.8	20.8	83.3	83.3	5.8	6.2	11.3	11.6	6	8	75 75	821496	810562	<0.2	2.0
Mile Survey Moderate 1234 9.4 Medite 4.7 0.5 0.6 0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0						Bottom					28.4		8.0		22.0		85.9		5.9		H							1.7
Moderate 12-34 9-4 Moderate 12-3						Surface					29.3		8.1		18.2		89.1				-							1.9
Secondary Moderate 12:01 5.2 Survey	IM12	Sunny	Moderate	12:34	9.4	Middle	4.7	0.5	90	28.5	28.5	8.0		21.5	21.5	82.3	82.3	5.7	6.0	12.5	12.9	6	8	75 75	821150	811531	<0.2	1.8
SR2 Sunny Moderate 12:01 5.2 Middle						Bottom	8.4	0.4	83	28.4	28.4	8.0	9.0	22.3	22.4	81.3	81.3	5.6	5.6	17.7		11		77			<0.2	1.5
Second S						Surface	1.0	0.4	113	28.8	28.8	8.0		20.4	20.4	90.4	90.4	6.2		6.9		7		74			<0.2	1.8
SRS Sunny Moderate 13:18 8.7 Sunface 1.0 0.8 175 29:1 29:1 80 80 70 719 179 179 1842 82 82 82 82 82 82 82 82 82 82 82 82 82	SR2	Sunny	Moderate	12:01	5.2	Middle	-	-	-	-	-	-	-	-	-	90.4	-	-	6.2		8.2	-	8	- 76	821443	814173	_	_
SR3 Sunny Moderate 13:18 8.7 Surface 1.0 0.8 175 20:1 20:1 8.0 8.0 179 179 179 842 842 859 5 6 2 5 5						Bottom	4.2	0.2	123	28.7	28.7		8.0		21.6		94.5		6.5			10		77				1.6
SR3 Sunny Moderate 12:18 8.7 Middle 4.4 0.4 177 283 28.3 7.9 7.9 7.9 22.1 22.1 76.1 76.1 76.1 5.2 10.2 9.5 6 6 822134 807581						Surface	1.0	0.8			29.1		8.0		17.9		84.2										-	_
SRIAM Fine Moderate 11:31 6.3 Surface 1.0 0.2 84 96 276 276 277 79 79 826 28 878 79 79 826 88 88 88 88 88 88 88 88 88 88 88 88 88	SR3	Sunny	Moderate	13:18	8.7	Middle	4.4	0.4	177	28.3	28.3	7.9	7.9	22.1	22.1	76.1	76.1	5.2	5.6	10.2	9.5	6	6		822134	807581		-
SRIA Fine Moderate 11:31 6.3 Middle 3.2 0.3 55 29.6 28.6 7.9 7.9 28.2 28.5 7.9 7.9 28.2 28.5 7.9 28.2 28.5 7.9 28.2 28.5 7.9 28.2 28.5 7.9 28.2 28.5 7.9 28.2 28.5 28.						Bottom					27.8		7.9		25.6		77.3		5.3					-			-	-
SR4A Fine Moderate 11.31 6.3 Middle 3.2 0.3 55 29.6 28.6 7.8 7.9 7.9 26.4 28.6 7.8 7.9 7.9 26.4 28.6 7.8 7.9 7.9 26.4 28.6 7.8 7.9 7.9 26.4 28.6 7.8 7.0 7.0 28.4 28.6 7.8 7.0 7.0 28.4 28.6 7.8 7.0 7.0 28.4 28.6 7.8 7.0 7.0 28.4 28.6 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.4 28.5 7.8 7.0 7.0 28.4 28.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 7.0 29.4 28.4 28.4 28.5 29.8 29.8 29.8 29.8 29.8 29.8 29.8 29.8						Surface					29.7		7.9	20.3	20.1		98.6		5.0					-			-	-
Second S	SR4A	Fine	Moderate	11:31	6.3	Middle				29.6	28.6		7.9		25.8		73.1	4.8	5.8		13.4		6		817182	807792		
SR5A Fine Moderate 11:14 9.0 Surface 1.0 0.1 328 30.4 30.4 8.0 8.0 18.2 112.0 111.9 7.6 1.0 7.6 11.0 1.0 1.0 327 30.4 8.0 8.0 18.2 112.0 111.9 7.6 1.0 7.6 1.0 1.0 1.0 1.0 327 30.4 8.0 8.0 18.2 112.0 111.9 7.6 8.6 8.6 8.0 8.0 11.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0						Bottom		0.2			27.5		7.9		26.4		76.1		5.2		F	6		-			-	-
SR5A Fine Moderate 11:14 9.0 Middle						Surface	1.0	0.1	326	30.4	30.4	8.0	8.0		18.3	112.0	111.9	7.6		8.5		7		-			-	-
Bottom 8.0 0.1 265 29.7 29.7 8.0 8.0 8.0 19.8 19.8 19.8 19.8 19.8 19.8 19.8 19.8	SR5A	Fine	Moderate	11:14	9.0	Middle	-	-	-	-	-		-	-	-	-	-	-	7.6		9.7	-	9	-	816596	810697		
SR6 Fine Moderate 10:48 5.5 Surface 1.0 0.1 70 29.8 29.8 8.0 8.0 8.0 18.7 18.7 114.6 114.5 7.8 7.8 7.8 9.9 9.9 9.9 1.0 1.0 1.0 1.0 1.74 29.8 11.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.						Bottom	8.0	0.1	265	29.7	29.7		8.0		19.8		109.6		7.5			10		-				
SR6 Fine Moderate 10:48 5.5 Middle 1.0 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.0						Surface	1.0	0.1	70	29.8	29.8	8.0	8.0	18.7	18.7	114.6	114.5	7.8		9.9		9		<u> </u>			-	1
Bottom 4.5 0.1 62 29.6 29.6 7.9 7.9 7.9 19.7 19.8 108.8 108.8 7.4 7.4 12.0 11 1.0	SB6	Fine	Moderate	10:48	5.5					29.8			-	18.7		114.4			7.8	9.9	11.0		10	-	817880	814647	-	-
Surface 1.0 0.6 72 27.7 27.8 8.0 8.0 27.8 27.8 27.8 27.8 27.8 27.8 27.8 27.8	0110	i iiic	Woderate	10.40	5.5		4.5		62	29.6	00.0	7.9	7.0	19.7	40.7	108.8	400.0	7.4	7.4	12.1	11.0		10	-	017000	014047	-	-
SR7 Sunny Moderate 10:46 21.2 Middle 10.6 0.7 28 27.2 27.2 7.9 7.9 28.4 28.4 83.5 83.5 5.7 8.0 3.9 3.9 7.8 2.0 2.0 2.1 54 26.6 26.6 7.9 7.9 30.6 30.8 84.0 84.2 5.7 5.7 4.5 8.0 2.0 2.1 58 26.6 29.5 29.5 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1									64	29.6		7.9		19.7		108.8		7.4	7.4	12.0				-			-	
SR8 Sunny Moderate 12:27 5.5 Middle 10.6 0.7 30 27.2 27.2 7.9 7.9 28.4 80.9 80 80 80 21.4 31.4 94.2 84.8 65.5 6.5 12.7 9.9 1.0 1.0 1.1 134 28.8 28.8 8.0 80 21.4 31.4 94.2 84.2 84.2 85.7 10 2.1 10 2.							1.0	0.6	76	27.7		8.0	0.0	27.8	27.0	91.4		6.2	6.0	3.3	F	9		-			-	-
SR8 Sunny Moderate 12:27 5.5 Middle	SR7	Sunny	Moderate	10:46	21.2		10.6	0.7	30	27.2		7.9	7.9	28.4		83.5		5.7		3.9	3.9	7	8	-	823625	823730	-	-
SR8 Sunny Moderate 12:27 5.5 Middle 1.0 0.1 307 29.5 29.5 8.1 8.1 18.9 18.9 98.1 96.1 6.7 6.7 7.0 9.9 10 10 10 10 10 10 10 10 10 10 10 10 10							20.2	2.1	58	26.6		7.9		30.6		84.3		5.7	5.7	4.5		8		-			-	-
SR8 Sunny Moderate 12:27 5.5 Middle						Surface	1.0	0.1	307	29.5	29.5		8.1		18.9		98.1	6.7	6.7	7.0	þ	9		-			-	-
	SR8	Sunny	Moderate	12:27	5.5	Middle	-	-	-	-	-		-	-	-	-	-	-		-	9.9	-	10		820398	811587		
A.5 U.1 142 28.8 8.0 21.4 94.2 6.5 12.7 10						Bottom	4.5 4.5	0.1	134 142	28.8 28.8	28.8	8.0		21.4	21.4	94.2 94.2	94.2	6.5 6.5	6.5	12.7 12.7		9 10		-			-	-

Water Quality Monitoring Results on 10 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 30.2 1.0 0.7 195 16.3 1064 7.5 Surface 30.2 8.1 16.3 106.3 16.2 75 1.0 0.7 197 30.2 8.1 106 1 7.3 7.6 -02 1.1 3.2 0.5 200 29.8 8.1 17.0 93.1 6.4 11.2 9 76 < 0.2 0.8 C1 19:47 6.4 Middle 8.1 17.0 92.8 13.1 76 815617 804245 8.0 Fine Moderate 11 0.5 217 29.9 8.1 92.4 6.4 11.4 11 76 <0.2 0.9 5.4 0.4 199 28.3 7.9 23.8 20.5 13 77 <0.2 0.5 7.9 23.8 77.5 5.3 Rottom 28.3 0.4 28.3 7.9 23.8 5.3 20.6 14 <0.2 1.0 0.5 152 8.0 75 29.2 17.1 87.1 6.1 6.0 6 <0.2 2.3 Surface 29.2 8.0 17.1 87.1 8.0 87.1 6.1 1.0 0.5 154 29.2 6.0 76 <0.2 2.1 5.9 77 77 150 6.1 0.4 28.8 8.0 20.3 82.9 5.7 5.7 6.7 8 <0.2 2.2 825682 C2 Cloudy Moderate 19:01 12.1 Middle 28.8 8.0 20.3 82.9 6.7 77 806930 2.1 20.3 6.1 0.4 152 28.8 8.0 82.9 6.7 < 0.2 2.2 0.5 118 28.6 8.0 21.8 6.1 7.4 11 78 <0.2 2.0 8.0 21.8 88.3 Bottom 28.6 0.5 124 28.6 7.4 9 78 1.8 0.5 6.4 7.3 2.0 28.7 8.1 22.1 < 0.2 Surface 28.7 8.1 22.1 92.9 1.0 0.5 28.7 8.1 22.1 6.4 7.3 78 1.8 66 92.9 < 0.2 6.7 0.8 102 28.0 8.0 24.5 84.3 5.8 8.8 12 78 < 0.2 1.7 24.5 822099 817811 C3 Cloudy Moderate 20:34 13.4 Middle 28.0 8.0 84.3 8.0 6.7 0.8 103 28.0 8.0 24.5 84.3 5.8 8.8 13 79 < 0.2 1.7 124 0.4 116 27.7 8.0 26.7 87.7 5.9 7.9 14 80 <0.2 1.4 Bottom 8.0 26.7 87.7 5.9 124 0.5 126 27.7 8.0 26.7 87.7 59 79 12 80 <0.2 1.3 1.0 0.6 174 30.0 16.6 91.0 90.5 10.9 74 8.0 16.6 6.3 5 <0.2 2.1 90.8 Surface 30.0 8.0 8.0 16.6 6.2 75 1.9 1.0 0.7 174 30.0 6 <0.2 3.8 0.5 169 28.8 7.9 21.3 81.2 5.6 14.7 16 75 < 0.2 1.3 7.9 21.3 81.2 IM1 Fine Moderate 19:38 7.5 Middle 28.8 75 818345 806472 7.9 21.3 5.6 14.8 75 <0.2 1.2 3.8 0.5 184 28.8 81.2 15 22.9 83.1 6.5 0.3 152 28.5 7.9 22.9 5.7 5.7 18.3 22 76 <0.2 1.1 Bottom 28.5 7.9 83.3 5.7 6.5 0.3 165 28.5 79 229 83.5 18.3 21 76 <0.2 1.0 1.0 0.7 200 29.7 76 8.1 16.4 102.4 6.8 <0.2 Surface 29.7 8.1 16.4 102.3 1.0 0.7 8.1 16.3 102.1 76 <0.2 1.8 218 29.7 6.8 4.4 0.6 193 29.3 8.0 17.2 6.6 77 <0.2 1.7 95.3 6 19:33 8.7 17.2 95.2 77 818853 806175 IM2 Fine Moderate Middle 29.3 8.0 4.4 0.6 199 29.3 8.0 17.2 95.0 6.6 7.8 4 77 <0.2 1.8 77 7.7 0.5 175 28.6 8.0 21.1 95.7 6.6 9.9 6 < 0.2 1.5 Bottom 8.0 21.1 96.0 6.6 8.0 77 0.5 190 96.2 6.6 28.6 99 6 -n 2 1 4 1.0 0.6 179 30.3 8.0 16.9 99.5 6.8 7.5 4 75 <0.2 1.8 Surface 30.4 8.0 16.9 99.4 1.0 0.6 179 30.4 8.0 16.8 99.3 6.8 7.5 75 <0.2 1.8 4.3 0.5 179 29.0 7.9 12.1 75 <0.2 1.5 IM3 19:26 8.6 Middle 29.0 7.9 19.6 83.9 819429 806007 Fine Moderate 4.3 0.6 29.0 7.9 19.6 83.8 5.8 12.3 75 <0.2 1.8 193 9 76 7.6 0.5 175 7.9 <0.2 1.4 28.7 23.1 87.3 5.9 14.8 9 23.1 87.5 6.0 Bottom 28.7 7.9 87.7 6.0 7.9 23.1 14.6 1.4 7.6 0.6 28.7 76 < 0.2 186 9 1.0 0.5 163 29.2 7.9 18.1 84.0 5.8 5.7 13.1 74 <0.2 1.7 Surface 29.5 7.9 18.0 83.5 7.9 74 1.7 1.0 0.6 171 29.7 17.0 82.9 13.3 8 < 0.2 4.1 0.4 168 28.6 7.9 21.5 5.5 16.0 15 75 < 0.2 1.4 IM4 19:20 7.9 21.6 80.3 819561 805042 Fine Moderate 8.1 Middle 28.6 4.1 0.4 174 28.6 7.9 21.6 80.2 5.5 16 75 <0.2 1.2 0.3 154 28.3 7.9 19.0 19 75 <0.2 1.2 22.8 81.3 5.6 7.9 22.8 81.5 Botton 28.3 5.6 7.1 0.4 166 7.9 22.8 81.6 5.6 19.0 21 76 1.2 28.3 < 0.2 1.0 0.6 181 29.5 7.9 17.4 88.5 6.1 8.9 4 75 75 < 0.2 2.2 17.5 Surface 29.3 7.9 88.6 1.0 7.9 88.7 6.2 5 < 0.2 1.9 0.6 194 29.1 9.0 1.7 3.7 0.5 177 24.7 7.9 20.2 87.8 5.3 12.3 4 75 <0.2 IM5 Moderate 19:14 7.4 Middle 24.8 7.9 20.1 87.7 820577 804905 Fine 3.7 0.5 187 24.8 7.9 20.0 87.6 5.4 12.1 75 <0.2 1.9 6.4 0.4 186 23.2 82.6 18.1 21 76 1.3 28.7 7.9 23.2 5.6 <0.2 7.9 82.8 5.7 Bottom 28.7 7.9 17.9 76 6.4 0.4 191 28.7 20 <0.2 1.3 1.0 0.4 212 29.5 8.0 15.7 6.6 7.8 4 74 <0.2 1.8 94.4 29.5 8.0 15.7 94.2 Surface 8.0 15.7 93.9 6.6 <0.2 1.7 0.5 7.9 75 1.0 215 29.5 5 17.9 3.6 0.5 199 29.0 8.0 17.9 6.1 9.6 4 75 75 <0.2 1.3 IM6 19:08 Middle 29.0 87.1 821048 805817 Moderate 7.1 3.6 0.5 208 29.0 8.0 179 87.0 6.1 9.7 5 < 0.2 0.5 193 12.6 76 <0.2 1.2 28.7 21.3 6.1 7.9 21.3 89.1 Bottom 28.7 0.5 7.9 12.7 <0.2 1.2 6.1 28.7 8 0.2 29.9 8.0 6.6 7.6 <0.2 1.9 Surface 29 9 8.0 15.5 94.9 15.5 7.7 2.0 1.0 0.2 219 8.0 94.7 6.6 4 74 <0.2 29.8 9.3 44 0.3 164 29 1 8.0 19.1 87.4 6.0 9 74 <0.2 1.4 IM7 Fine Moderate 19:00 8.8 Middle 8.0 19.1 87.3 10.0 821357 806842 74 44 8.0 1.6 0.3 179 29.1 191 87 1 6.0 9.5 8 <n 2 7.8 0.2 129 28.6 7.9 22.5 90.4 6.2 12.8 10 75 <0.2 1.2 Bottom 28.6 7.9 22.5 90.7 6.2 7.8 0.2 28.6 7.9 22.5 90.9 6.2 13.0 75 <0.2 1.3 1.0 0.3 174 29.3 5.5 75 <0.2 1.6 8 1 16.5 93.3 Surface 29.3 0.3 29.3 8.1 16.5 93.3 6.5 5.5 75 <0.2 1.7 182 6 3.7 119 9.4 76 0.2 8.0 22.0 84.4 5.8 8 < 0.2 1.9 28.4 22.0 821693 IM8 Cloudy Moderate 19:21 7.4 Middle 28.4 8.0 84.4 77 807838 1.7 77 1.7 3.7 0.2 129 8.0 22.0 84.4 5.8 94 <0.2 28.4 6.4 0.2 46 28.3 8.0 22.7 88.1 6.1 7.1 78 <0.2 1.4 Bottom 28.3 8.0 22.7 88.1 6.1 6.4 0.2 47 28.3 88 1 9 1.7

DA: Depth-Average

Water Quality Monitoring Results on 10 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 29.6 8.1 1.0 0.7 106 16.4 5.3 -02 19 Surface 29.6 8.1 16.4 101.6 75 1.0 0.7 114 29.6 8.1 16.4 1016 7 1 5.3 -02 1.8 76 77 4.2 0.5 88 28.8 8.0 20.1 88.1 6.1 9.9 5 <0.2 1.6 IM9 19:27 8.3 Middle 8.0 20.1 88.1 9.0 822103 808805 1.6 Cloudy Moderate 4.2 0.5 96 28.8 8.0 20.1 88.1 6.1 9.9 6 <0.2 7.3 0.4 92 28.8 8.0 11.9 10 78 <0.2 1.4 8.0 20.4 95.1 6.6 Rottom 28.8 0.4 28.8 8.0 95.1 11.9 <0.2 1.4 1.0 0.8 110 75 1.7 29.6 8.1 16.2 7.0 5.7 6 <0.2 100.2 Surface 29.6 8.1 16.2 100.2 100.2 7.0 8.1 16.2 5.7 2.0 1.0 0.8 120 29.6 6 76 <0.2 77 4.4 0.6 80 28.8 8.0 19.9 87.6 6.1 9.8 <0.2 2.0 IM10 Cloudy Moderate 19:34 8.7 Middle 28.8 8.0 19.9 87.6 9.7 77 822233 809852 1.8 4.4 0.6 87 28.8 8.0 19.9 87.6 6.1 9.8 < 0.2 1.8 7.7 0.4 54 28.7 8.0 20.8 6.2 13.7 10 78 <0.2 1.7 28.7 8.0 20.8 90.5 6.2 Bottom 7.7 0.4 57 28.7 8.0 13.7 78 1.8 106 0.7 29.6 76 2.0 8.1 16.2 105.7 5.2 < 0.2 Surface 29.6 8.1 16.2 105.7 1.0 0.8 110 8.1 16.2 105.7 7.4 5.2 4 76 1.6 29.6 < 0.2 76 77 4.2 0.6 80 28.8 8.0 19.7 90.0 6.2 8.1 8 < 0.2 1.7 19.7 821502 810533 IM11 Cloudy Moderate 19:42 8.4 Middle 28.8 8.0 90.0 4.2 0.7 87 28.8 8.0 19.7 90.0 6.2 8.1 6 < 0.2 1.8 7.4 0.4 99 28.7 8.0 20.9 93.0 6.4 11.8 78 <0.2 1.8 Bottom 28.7 8.0 20.9 93.0 74 0.5 100 28.7 8.0 20.9 93.0 6.4 11.8 6 78 <0.2 1.8 1.0 0.7 106 29.5 16.3 5.9 76 <0.2 2.0 8.1 16.3 100.6 7.0 8 100.6 Surface 29.5 8.1 8.1 16.3 7.0 75 1.9 1.0 0.7 113 29.5 5.9 <0.2 77 4.3 0.6 83 28.8 8.0 19.7 88.2 6.1 7.6 7 < 0.2 2.0 Middle 19.7 821144 IM12 Cloudy Moderate 19:50 8.6 28.8 8.0 88.2 77 811528 8.0 19.7 88.2 7.6 78 <0.2 1.8 4.3 0.6 86 28.8 6.1 7.6 0.4 94 28.7 8.0 20.8 89.4 6.2 13.8 8 79 <0.2 1.6 Bottom 20.8 89.4 7.6 0.4 95 28.7 8.0 20.8 89 4 6.2 13.8 79 <0.2 1.5 1.0 0.6 76 28.9 8.0 19.6 92.8 6.4 7.6 <0.2 Surface 28.9 8.0 19.6 92.8 1.0 83 8.0 19.6 7.6 5 77 1.7 0.6 28.9 92.8 6.4 <0.2 20:15 47 821474 814151 SR2 Cloudy Moderate Middle 78 1.8 79 3.7 0.5 55 28.7 8.0 20.7 89.0 6.1 11.3 10 10 <0.2 1.8 Bottom 28.7 8.0 20.7 89.0 6.1 3.7 58 8.0 0.5 89 N 6.1 11.3 80 28.7 -02 21 1.0 0.4 162 29.6 8.1 15.7 93.6 6.5 6.1 6 15.7 Surface 29.6 8.1 93.6 1.0 0.4 171 29.6 8.1 15.7 93.6 6.5 6.1 4.2 0.2 149 28.4 8.0 11.4 SR3 19:16 84 Middle 28.4 8.0 22.3 78.7 10.0 10 822149 807552 Moderate Cloudy 4.2 0.2 150 28.4 8.0 22.3 78.7 5.4 11.4 7.4 0.2 22.5 79.9 13 59 28.3 8.0 5.5 12.5 22.5 79.9 5.5 Bottom 28.3 8.0 79.9 5.5 8.0 12.5 7.4 0.2 28.3 13 63 1.0 0.0 143 29.4 8.0 5.9 12.8 Surface 29.4 8.0 19.7 86.1 85.9 5.9 12 1.0 0.0 155 29.4 8.0 19.7 13.0 4.2 0.1 36 28.5 7.9 22.4 5.4 18.3 14 SR4A 19:59 7.9 22.4 79.1 16.8 817195 807806 Fine Moderate 8.4 Middle 28.5 4.2 0.1 37 28.5 7.9 22.4 5.4 18.3 15 0.1 28.5 7.9 19.2 21 23.4 82.7 5.6 7.9 82.9 Bottom 28.5 23.4 7.4 0.1 56 7.9 23.4 5.7 21 28.5 83.0 19.2 1.0 0.1 162 27.2 8.1 8.1 125.2 9.5 8.7 9 Surface 29.2 8.1 8.1 121.7 1.0 174 8.1 0.1 31.1 8.1 118.1 8.8 9.0 SR5A Fine Calm 20:16 5.5 Middle 816605 810691 4.5 0.1 127 30.6 19.7 9.5 8.1 7.6 112.7 8.1 19.8 7.6 Bottom 30.6 0.1 136 30.5 8.1 19.8 1126 9.5 1.0 0.1 109 29.3 8.1 20.4 14.8 13 112.8 8.1 20.4 112.8 Surface 29.3 8.1 112.8 7.7 115 20.4 14.8 1.0 0.1 29.2 13 SR6 20:39 Middle 817897 814654 Fine Calm 3.6 2.6 0.1 32.0 16.1 19 19.2 30.6 8.1 19.8 111.9 7.5 Bottom 2.6 8.1 20.4 114.3 7.8 16.2 20 0.1 61 29.2 1.3 28.8 8.1 21.1 94.5 6.5 5.5 Surface 28.8 8.1 21.1 94.5 21.1 5.5 1.0 1.3 87 28.8 8.1 94.4 6.5 8.2 0.7 89 28.5 8 1 23.0 89.4 6.1 6.2 10 SR7 Cloudy Moderate 20:57 16.4 Middle 8.1 23.0 89.4 5.9 823642 823750 8 1 23.0 10 8.2 0.8 94 28.5 89 4 6.1 6.2 15.4 0.4 239 27.9 8.0 25.8 86.4 5.9 6.1 10 Bottom 27.9 8.0 25.8 86.4 5.9 15.4 0.5 27.9 8.0 25.8 86.4 59 6.1 1.0 0.6 101 29.5 8.1 16.9 4.8 8 29.5 8.1 16.9 105.4 Surface 105.4 1.0 0.6 108 29.5 8.1 16.9 7.3 4.8 6 7.3 SR8 Cloudy Moderate 19:59 5.1 Middle 820430 811609 4.1 0.4 29.3 8.1 5.9 29.3 8.1 17.7 103.9 7.2 103.9 4.1 0.4 69 29.3 8.1

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 10 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.4 248 29.1 8 1 18.6 95.0 8.3 75 1.0 6.6 -n 2 14 Surface 29.1 1.0 0.4 266 29.1 8.1 18.6 94.6 6.6 8.4 75 <0.2 1.6 3.6 0.1 214 28.4 8.0 21.6 85.0 5.9 10.0 8 76 < 0.2 1.4 C1 12:57 7.1 8.0 21.6 84.9 815638 804257 1.3 Sunny Moderate Middle 28.4 9.6 76 3.6 0.1 228 28.4 8.0 21.6 84.8 5.9 10.1 75 <0.2 1.3 8 76 6.1 0.2 181 28.2 8.0 24.8 90.4 6.2 10.5 10 <0.2 1.0 Botton 24.8 90.7 91.0 6.1 0.3 191 28.2 8.0 24.8 6.2 10.4 10 76 <0.2 1.1 1.0 0.4 143 29.2 8.0 17.3 88.9 6.2 7.0 75 <0.2 1.8 17.3 29.2 8.0 88.9 Surface 6.2 75 1.9 1.0 0.5 152 29.2 8.0 88.9 7.0 6 <0.2 1.7 6.3 0.4 161 28.2 8.0 21.7 77.6 5.4 11.6 9 76 77 <0.2 77.6 825664 C2 Cloudy Moderate 14:24 12.6 Middle 28.2 8.0 21.7 76 806930 172 8.0 21.7 5.4 6.3 0.4 77.6 11.6 8 < 0.2 28.2 11.6 0.2 118 28.0 8.0 25.0 77.0 5.2 13.3 12 77 <0.2 1.2 Bottom 25.0 77.0 5.2 11.6 0.3 127 28.0 8.0 25.0 77 N 5.2 13.3 11 78 <0.2 12 1.0 0.4 211 28.1 8.1 25.3 97.5 6.6 3.0 4 77 <0.2 0.9 Surface 28.1 8.1 25.3 97.5 1.0 0.4 8.1 25.3 97.5 6.6 77 <0.2 1.0 28.1 3.1 0.4 3.2 78 <0.2 0.9 6.1 27.8 8.0 27.0 91.0 6.2 6 C3 12:27 27.8 8.0 27.0 90.9 822104 817808 121 Middle 32 0.9 Cloudy Moderate 90.8 0.9 27.8 8.0 27.0 6.1 3.3 78 <0.2 6.1 0.4 262 8 8.0 79 0.9 0.2 233 29.2 88.6 88.6 6.0 3.3 <0.2 27.2 6 Bottom 27.2 8.0 29.2 88.6 6.0 11.1 0.2 235 27.2 8 80 <0.2 0.8 1.0 0.2 183 29.2 8.0 17.8 89.8 6.2 8.2 76 <0.2 1.4 29.2 8.0 17.8 89.6 Surface 1.0 0.2 194 29.2 8.0 17.8 89.3 6.2 8.3 5 76 <0.2 1.6 3.8 0.3 28.4 11.2 76 < 0.2 1.7 13:11 83.0 818351 806446 IM1 Sunny Moderate 7.6 Middle 28.4 8.0 20.9 21.4 5.7 76 1.4 3.8 0.3 176 28.4 8.0 83.0 11.3 10 <0.2 6.6 134 8.0 6.0 11.3 15 77 <0.2 1.1 0.3 28.2 23.4 87.3 Botton 28.2 8.0 23.4 87.5 6.0 8.0 23.4 6.0 0.3 87.6 11.3 13 79 1.3 6.6 138 28.2 < 0.2 96.8 1.0 0.3 187 29.4 8.0 18.2 6.7 7.1 10 74 <0.2 1.4 18.2 Surface 6.7 74 1.0 0.3 204 29.4 8.0 18.2 7.1 10 <0.2 1.3 4.4 0.2 188 28.6 8.0 21.6 84.0 5.8 11.3 13 75 <0.2 1.3 21.6 10.5 IM2 13:16 8.8 Middle 28.6 8.0 84.0 12 75 818865 806177 1.3 Sunny Moderate 4.4 0.2 195 28.6 8.0 84.0 11.3 12 75 <0.2 1.3 7.8 0.2 152 28.4 8.0 22.6 22.6 86.8 5.9 13.1 13 76 <0.2 1.4 Bottom 28.4 8.0 86.7 6.0 7.8 8.0 22.6 6.0 13.2 14 76 1.3 0.2 158 28.4 < 0.2 1.0 8.0 0.2 223 28.9 18.3 89.3 6.2 10.2 76 <0.2 1.3 18.4 Surface 28.9 8.0 89.1 18.4 88.8 1.0 0.2 233 28.9 10.4 8 76 < 0.2 1.3 4.2 0.3 203 28.4 8.0 20.7 84.6 5.9 13.7 8 77 <0.2 1.3 IM3 13:25 8.3 Middle 28.4 20.7 819414 806001 Moderate Sunny 4.2 0.4 213 28.4 8.0 20.7 84.6 5.9 13.9 77 <0.2 1.3 14 77 <0.2 1.0 0.1 28.4 8.0 23.0 92.5 6.3 12.9 Bottom 28.4 8.0 23.0 92.9 7.3 77 0.1 179 28.4 8.0 23.0 93.3 6.4 12.8 13 <0.2 1.1 1.0 0.3 181 29.8 8.0 6.5 74 < 0.2 16.4 93.3 8 1.4 Surface 29.8 8.0 16.4 93.2 1.0 185 8.0 16.3 6.5 75 1.5 0.4 29.8 93.1 11.3 8 < 0.2 41 0.3 178 29.2 8.0 19.2 84.9 5.9 17.6 7 75 < 0.2 1.6 IM4 13:32 19.1 84.3 12.9 819574 805019 Sunny Moderate 8.1 Middle 4.1 0.3 189 29.9 8.0 18.9 83.7 5.7 18.0 75 <0.2 1.6 7.1 0.4 167 28.8 8.0 23.6 94.9 6.4 9.8 12 76 <0.2 0.8 Bottom 28.8 8.0 23.5 95.2 6.5 0.4 8.0 23.3 95.5 6.5 9.4 76 <0.2 0.9 28.8 1.0 0.3 182 1.5 30.5 8.0 14.9 6.2 8.6 6 <0.2 14.9 Surface 30.5 8.0 90.2 1.0 0.3 187 30.5 8.0 14.8 90.0 6.2 8.7 6 75 <0.2 1.6 75 76 <0.2 1.4 39 0.3 171 28 9 7.9 21.6 86.4 5.9 5.9 10.6 6 IM5 Moderate 13:39 7.8 Middle 29.0 7.9 21.7 86.4 12 820578 804921 1.3 79 86.3 39 0.3 184 29 0 10.8 6.8 0.3 170 28.2 7.9 24.0 92.7 6.3 9.8 23 76 <0.2 0.8 Bottom 28.2 7.9 24.0 93.0 6.8 0.3 176 28.2 79 23.9 93.3 9.8 24 76 <0.2 0.7 12.2 30.3 8.0 15.0 90.6 Surface 1.0 0.3 173 30.3 8.0 14.8 90.3 6.3 12.5 74 <0.2 1.9 6 1.4 3.7 0.3 134 28.8 8.0 18.3 80.4 5.6 14.1 8 75 <0.2 18.3 821053 IM6 Sunny Moderate 13:48 7.4 Middle 28.8 8.0 80.1 75 805823 75 3.7 0.3 136 8.0 18.3 79.8 5.6 14.4 8 < 0.2 28.8 6.4 0.5 134 28.2 7.9 23.5 74.7 5.1 21.7 13 76 < 0.2 0.9 Bottom 28.2 7.9 23.5 74.8 6.4 0.5 137 28.2 7.9 74.8 5.1 21.5 13 76 <0.2 1.0 1.0 0.2 135 29.5 8.0 18.1 95.4 6.6 6.9 75 <0.2 1.4 Surface 29.5 8.0 17.8 95.4 1.0 0.2 29.5 8.0 95.3 6.6 6.9 75 <0.2 1.4 4.3 0.2 113 29.2 8.0 19.1 8.1 5 76 <0.2 1.2 91.5 6.3 IM7 13:55 19.1 91.4 76 821356 806831 Sunny Moderate 8.6 Middle 29.2 8.0 4.3 8.0 19.1 91.3 6.3 8.2 76 <0.2 1.2 113 0.2 29.2 4 7.6 0.2 125 77 < 0.2 0.8 28.7 7.9 22.8 94.8 6.5 14 Botton 28.7 7.9 22.8 95.2 6.5 77 7.9 22.8 95.5 11.0 16 < 0.2 7.6 0.3 131 28.7 0.8 1.0 0.5 138 29.1 8.0 6.0 6.6 <0.2 1.3 Surface 29.1 8.0 17.8 86.7 1.0 0.5 147 29.1 8.0 17.8 6.0 6.6 75 <0.2 1.3 7.2 0.4 28.4 8.0 21.1 83.8 5.8 11 76 <0.2 1.0 83.8 821683 807828 IM8 Cloudy Moderate 13:58 7.7 Middle 28.4 8.0 21.1 76 1.0 7.2 10 76 0.9 3.9 0.4 115 28.4 8.0 21.1 83.8 5.8 < 0.2 77 6.7 0.4 107 28.3 8.0 22.5 22.5 87.4 6.0 7.2 12 < 0.2 0.6 8.0 22.5 87.4 Rottom 28.3 6.0 6.7 8.0 0.7 6.0 0.4 28.3 87.4 < 0.2

DA: Depth-Averaged

Water Qua Water Qua			lts on		10 June 17	during Mid-E	Ebb tide																				
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Ter	mperature (°C)	pl	+	Salin	ity (ppt)		aturation %)	Disso		Turbidity(NTU)	Suspended S (ma/L)	Solids To	otal Alkalinity (ppm)	Coordinate		Chromium (µg/L)	Nickel (µg/L
Station	Condition	Condition	Time	Depth (m)	Sampling Dep	oth (m)	(m/s)	Direction	Value	Average	Value A	Average	Value	Average	— ì	,	1	DA	Value	DA		DA V	alue DA	HK Grid (Northing)	HK Grid (Easting)		Value DA
					Surface	1.0	0.6	106	29.0	29.0	8.0	8.0	18.9	18.9	88.1	88.1	6.1	Ĺ	6.4	Ĺ	10		75			<0.2	1.0
IM9	Cloudy	Moderate	13:48	7.2	Middle	1.0 3.6	0.7 0.5	107 78	29.0 28.4	28.4	8.0	8.0	18.9 21.1	21.1	88.1 78.9	78.9	6.1 5.5	5.8	6.4 8.8	9.2	10 9	12	76 77 78	822091	808829	<0.2 <0.2 <0.2	2 0.9 0.9
	,					3.6 6.2	0.5	78 61	28.4 28.2		8.0		21.1		78.8 78.1		5.5 5.4		8.8 12.3		10 16		78 79			<0.2	1.1
					Bottom	6.2	0.4	64	28.2	28.2	8.0	8.0	23.3	23.3	78.1	78.1	5.4	5.4	12.3		18		80			<0.2	0.8
					Surface	1.0	0.7	86 87	28.9 28.9	28.9	8.1	8.1	18.4 18.4	18.4	90.7 90.4	90.6	6.3	6.2	6.6 6.7		8		76 76			<0.2	1.6
IM10	Cloudy	Moderate	13:37	7.9	Middle	4.0	0.5 0.5	89 95	28.7 28.7	28.7	8.1	8.1	20.4	20.4	86.2 86.1	86.2	6.0	0.2	8.2 8.3	9.2	8	9	78 78	822224	809845	<0.2	1.3
					Bottom	6.9 6.9	0.3	94 99	28.5 28.5	28.5	8.0	8.0	22.4 22.4	22.4	87.1 87.1	87.1	6.0	6.0	12.8 12.8		12		79 79			<0.2	1.3
					Surface	1.0	0.6	100	28.8	28.8	8.0	8.0	18.9	18.9	92.5 92.5	92.5	6.4	Ĺ	6.3	Ĺ	9		77 77			<0.2	1.5
IM11	Cloudy	Moderate	13:27	9.2	Middle	1.0 4.6	0.6 0.4	108	28.8 28.6	28.6	8.0		21.1	21.1	86.6	86.6	6.0	6.2	6.3 7.8	7.8	9	0	78 70	821517	810555	<0.2	2 1.2
	,				Bottom	4.6 8.2	0.5	109 76	28.6 28.5		8.0		21.1	22.3	86.6 89.5	89.5	6.0	6.1	7.8 9.3	-	7		78 79			<0.2	1.2
						8.2 1.0	0.1	81 95	28.5 29.2	28.5	8.0	8.0	22.3 19.2		89.5 89.5		6.1	6.1	9.3 7.7		10		80 78			<0.2 <0.2	1.1
					Surface	1.0	0.6	98	29.2	29.2	8.0	8.0	19.2	19.2	89.5	89.5	6.2	6.1	7.7		10		77			<0.2	1.1
IM12	Cloudy	Moderate	13:19	9.7	Middle	4.9 4.9	0.6	74 79	28.7 28.7	28.7	8.0	8.0	20.8	20.8	86.0 86.0	86.0	5.9 5.9		9.6 9.6	10.2	9	''	78 79	821163	811519	<0.2	1.1
					Bottom	8.7 8.7	0.7	59 63	28.4 28.4	28.4	8.0		23.0	23.0	83.8	83.8	5.7 5.7	5.7	13.2 13.2	H	14 14		79 80			<0.2	1.1
					Surface	1.0	0.4	92 100	29.0 29.0	29.0	8.1	8.1	21.7	21.7	94.9 94.9	94.9	6.5 6.5	ŀ	5.6 5.6	ŀ	8		77 78			<0.2 <0.2	0.9
SR2	Cloudy	Moderate	12:51	4.6	Middle	-	-	-	-	-	-	-	-		-	-	-	6.5	-	7.2	-	9	- 78	821475	814176	- <0.2	_
					Bottom	3.6	0.4	24	28.2	28.2	8.0	8.0	24.2	24.2	88.6	88.6	6.0	6.0	8.7		11		79			<0.2	0.7
					0	3.6 1.0	0.4	26 154	28.2		8.0		24.2 18.3		88.6 82.4		6.0 5.8		8.7 9.3		9		79			<0.2	0.8
					Surface	1.0 4.9	0.5 0.4	158 130	28.8 28.5	28.8	8.0 8.0	8.0	18.3 21.8	18.3	82.4 83.3	82.4	5.8 5.7	5.8	9.3 10.9		5 9		-			-	-
SR3	Cloudy	Moderate	14:03	9.7	Middle	4.9 8.7	0.4	134	28.5	28.5	8.0		21.8	21.8	83.7 90.2	83.5	5.8		10.9	9.8	9	9	-	822139	807580	-	-
					Bottom	8.7	0.4 0.4	92	28.7	28.7	8.0		21.7	21.7	90.2	90.2	6.2	6.2	9.2		12		-			-	-
					Surface	1.0	0.5 0.5	67 69	29.1 29.1	29.1	8.1	8.1	17.9 17.9	17.9	96.1 95.6	95.9	6.7 6.7	6.4	10.9 10.8		10 9	-	-			-	-
SR4A	Sunny	Moderate	12:41	8.8	Middle	4.4	0.4	65 70	28.7 28.7	28.7	8.0	8.0	19.3 19.3	19.3	88.0 87.7	87.9	6.1	0.4	16.1 16.4	15.2	11 12	14	-	817208	807817	-	-
					Bottom	7.8	0.3	65 69	28.6	28.6	8.0	8.0	21.0	21.0	89.3 89.4	89.4	6.2	6.2	18.4	İ	21		-			-	-
					Surface	1.0	0.1	56	29.4	29.4	8.2	8.2	20.1	20.1	115.4	115.3	7.9		7.7		9		-			-	-
SR5A	0	0-1	10:00	5.0		1.0	0.1	57	29.4		8.2		20.1		115.2		7.9	7.9	7.8	0.4	9	40	-	040504	810708	-	-
SHOA	Sunny	Calm	12:20	5.6	Middle	4.6	0.1	97	29.3	=	8.1	-	20.1		113.4		- 7.8		8.4	8.1	10	10	-	816594	810708		-
					Bottom	4.6	0.1	103	29.3	29.3	8.1	8.1	20.1	20.1	113.3	113.4	7.8	7.8	8.4		10		-				-
					Surface	1.0	0.1	100 102	29.4 29.4	29.4	8.0	8.0	19.5 19.5	19.5	104.0 103.9	104.0	7.1	7.1	11.2 11.2		15 16		-			-	-
SR6	Sunny	Calm	11:55	4.8	Middle	-	-	-	-	-	-	-	-		-	-	-		-	13.4	-	16	-	817907	814665		
					Bottom	3.8	0.1	112 115	29.1 29.1	29.1	8.0	8.0	19.7 19.7		101.1	101.2	7.0 7.0	7.0	15.6 15.4		18 16		-			-	-
					Surface	1.0	0.1	203	27.7	27.7	8.0		26.9	26.9	86.2	86.2	5.8		3.6		8 7		-	1		-	-
SR7	Cloudy	Moderate	11:55	16.6	Middle	1.0 8.3	0.1	211 240	27.7 27.2	27.2	8.0		26.9 28.5		86.2 81.8	81.8	5.8 5.5	5.7	3.6 4.6	4.2	9	8	-	823641	823757		-
0	5.000	············		.0.0		8.3 15.6	0.2 1.4	247 279	27.2 27.1		8.0 7.9		28.6 29.1		81.8 83.3		5.5 5.6	E.C.	4.8 4.4		7	Ĭ	-	0200.1	320.07	-	-
					Bottom	15.6 1.0	1.5 0.4	301 99	27.1 29.3	27.1	7.9 8.1	7.9	29.1 19.6	29.1	83.3 95.2	83.3	5.6 6.5	5.6	4.4 6.3		7 5		-			-	-
					Surface	1.0	0.5	101	29.3	29.3	8.1	8.1	19.6	19.6	95.2	95.2	6.5	6.5	6.3	ļ	5		-			-	-
SR8	Cloudy	Moderate	13:12	5.6	Middle	-	-	-	-	=	-	-	-		-	-	-		-	8.4	-	8	-	820417	811604	-	-
					Bottom	4.6 4.6	0.1	71 72	28.6 28.6	28.6	8.0	8.0	22.7 22.7	22.7	93.4 93.4	93.4	6.4	6.4	10.4 10.4	Ī	10 12	F	-			-	-
DA: Denth-Ave					I.				_5.0												1						

Water Quality Monitoring Results on 15 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.6 28.4 1.0 43 15.6 5.6 -02 Surface 28.4 7.9 15.6 90.7 79 15.6 74 1.0 0.6 43 28.4 90.7 6.5 5.6 -02 16 4.4 0.4 29 28.3 7.9 16.8 80.4 5.7 6.7 6 75 < 0.2 1.6 C1 09:07 8.8 Middle 7.9 16.8 79.7 76 815606 804233 1.6 Foggy Moderate 4.4 0.4 28.2 7.9 16.8 78.9 5.6 6.8 76 <0.2 7.8 0.3 28.0 7.8 73.9 8.7 9 77 <0.2 1.6 7.8 21.9 74.1 Rottom 28.0 5.1 28.0 7.8 74.2 5.1 8.7 <0.2 1.6 1.0 0.4 7.8 5.7 73 21 28.8 15.2 5.8 8 <0.2 1.9 81.8 Surface 28.8 7.8 15.2 81.8 7.8 15.2 81.8 5.8 5.7 73 2.0 1.0 0.5 21 28.8 8 <0.2 6.5 34 7.4 75 76 0.2 28.1 7.8 19.3 71.4 5.0 <0.2 1.9 C2 Cloudy Moderate 10:15 12.9 Middle 28.1 7.8 19.3 71.4 75 825687 806962 2.0 7.4 2.0 6.5 0.2 28.1 7.8 19.3 71.4 5.0 < 0.2 11.9 0.5 132 28.0 7.8 20.8 72.1 5.0 9.2 77 < 0.2 2.0 7.8 20.8 72.1 5.0 Bottom 28.0 11.9 0.6 139 28.0 7.8 72.1 9.2 78 2.0 0.6 28.4 75 7.8 16.1 78.5 5.6 6.7 < 0.2 2.0 Surface 28.4 7.8 16.1 78.5 1.0 0.6 320 7.8 16.1 78.5 5.6 6.7 75 2.0 28.4 6 < 0.2 5.9 0.5 277 27.9 7.8 19.2 71.0 5.0 10.0 8 76 < 0.2 1.9 822093 817789 C3 Cloudy Moderate 08:37 11.8 Middle 27.9 7.8 19.2 71.0 2.0 5.0 5.9 0.5 277 27.9 7.8 19.2 71.0 10.0 8 76 < 0.2 2.0 10.8 0.1 229 27.6 7.8 22.2 67.8 47 16.6 8 77 77 <0.2 2.1 Bottom 27.6 7.8 22.2 67.8 10.8 0.1 248 27.6 7.8 22.2 67.8 47 16.6 <0.2 2.0 1.0 0.5 28.8 7.9 74 1.8 19 15.7 91.6 6.5 6.0 5 <0.2 15.7 91.6 Surface 28.8 7.9 7.9 91.6 6.5 74 1.9 1.0 0.5 28.8 5.9 4 <0.2 4.0 0.3 359 28.6 8.0 15.9 89.0 6.3 6.3 6 76 < 0.2 1.6 15.9 88.8 IM1 Cloudy Moderate 09:25 79 Middle 28.6 8.0 76 818366 806458 8.0 15.9 88.5 6.3 76 <0.2 1.6 4.0 0.3 359 28.6 6.4 6 17.3 6.9 0.4 344 28.2 7.9 17.3 6.2 7.1 78 <0.2 1.6 Bottom 28.3 7.9 88.0 6.2 6.9 0.4 316 28.3 79 17.3 88 1 6.2 7 1 78 <0.2 1.6 1.0 0.6 29 28.9 6.4 74 <0.2 1.6 6.4 Surface 28.9 7.9 15.6 91.0 1.0 0.7 7.9 15.6 91.0 6.4 74 1.6 30 28.9 6.4 6 <0.2 6.3 0.4 28.5 7.9 15.9 6.1 6.7 76 < 0.2 1.7 85.7 8.9 28.5 7.9 85.7 818856 806187 IM2 Cloudy Moderate 09:30 Middle 16.0 76 4.5 0.4 12 28.5 7.9 16.0 85.6 6.1 6.8 76 <0.2 1.5 4 7.9 0.4 354 28.3 79 17.9 84.6 6.0 7.4 8 77 < 0.2 16 Bottom 7.9 18.0 84.8 6.0 7.9 7.9 18.0 7.4 10 78 1.7 326 84 9 6.0 0.4 28.3 -n 2 1.0 0.5 34 28.9 8.0 15.5 89.5 6.3 6.3 5 74 <0.2 1.7 Surface 28.9 8.0 15.5 89.5 1.0 0.6 34 28.9 8.0 15.5 89.4 6.3 6.3 73 <0.2 1.6 47 0.4 354 28.2 7.6 76 <0.2 1.7 IM3 09:37 94 Middle 28.2 8.0 16.3 74.3 819399 806022 Moderate Cloudy 4.7 0.5 326 28.1 7.9 16.3 74.2 5.3 76 <0.2 6 8.4 0.3 7.9 7.5 78 1.7 29 28.1 23.2 81.3 5.6 5 <0.2 23.5 81.6 5.6 Bottom 28.1 7.9 5.6 7.4 7.9 81.9 1.6 8.4 0.3 78 < 0.2 30 28.1 0.7 1.0 28.9 7.9 14.1 6.2 74 <0.2 1.7 Surface 28.9 7.9 14.1 86.7 7.9 86.6 6.2 74 1.7 1.0 0.8 38 28.9 1/1/1 6.2 5 < 0.2 4.3 0.4 348 28.2 7.9 18.5 4.7 9.0 76 <0.2 1.8 IM4 09:52 28.2 7.9 18.5 66.9 819562 805027 Cloudy Moderate 8.6 Middle 4.3 0.5 320 28.2 7.9 18.4 66.6 4.7 9.0 76 <0.2 1.7 0.3 27.6 7.9 4.3 13.0 6 78 <0.2 1.5 24.3 62.6 7.9 24.4 62.8 Botton 27.6 4.3 7.6 0.3 27 27.6 7.9 24.5 62.9 4.3 13.1 78 1.7 6 < 0.2 1.0 0.5 14 28.8 8.0 15.6 86.0 6.1 8.2 9 74 < 0.2 1.5 15.6 Surface 28.8 8.0 86.0 8.0 86.0 74 < 0.2 1.5 1.0 0.6 14 28.8 15.6 6.1 8.2 8 1.7 3.9 0.5 345 28.5 8.0 16.8 69.8 4.9 12.3 8 76 <0.2 IM5 Cloudy 10:01 7.7 Middle 28.5 8.0 16.8 69.6 820550 804911 Moderate 3.9 0.6 317 28.4 8.0 16.7 69.4 4.9 12.5 76 <0.2 1.5 6.7 0.4 350 24.9 69.2 13.8 78 <0.2 1.8 27.9 7.9 24.8 4.7 8 7.9 69.4 4.8 Bottom 28.0 7.9 4.8 78 0.4 322 28.0 24.9 13.5 <0.2 1.6 1.0 0.4 29 28.9 8.0 15.5 6.1 8.0 8 74 <0.2 1.5 28 9 8.0 15.5 85.7 Surface 8.0 15.5 85.6 <0.2 6.1 8.0 74 1.4 1.0 0.4 29 28.9 6 4.0 0.3 9 28.2 8.0 18.5 69.6 4.9 8.4 8 75 <0.2 1.7 IM6 10:08 Middle 28.2 18.5 69.3 821059 805837 Cloudy Moderate 7.9 4.0 0.3 9 28.1 8.0 18.4 69.0 4.9 8.4 9 76 < 0.2 1.6 6.9 0.2 28.1 9.1 78 <0.2 1.5 25.5 5.5 7.9 25.4 81.3 5.5 Bottom 28.1 6.9 0.2 7.9 25.3 11 78 <0.2 1.6 39 28.1 28.8 8.0 15.8 86.3 6.1 6.4 <0.2 1.4 Surface 28.8 8.0 15.8 86.3 15.8 74 1.0 0.5 18 28.8 8.0 86.3 6.1 6.4 <0.2 1.4 8 8.7 76 76 1.5 44 0.4 32 28.4 8.0 17.4 78.8 5.6 9 <0.2 IM7 Cloudy Moderate 10:17 8.8 Middle 28.4 8.0 17.4 78.7 10.2 821334 806852 44 33 17.4 78.6 5.5 0.5 28.4 8.0 8.8 8 <n 2 7.8 0.4 32 28.0 7.9 22.6 69.2 4.8 15.6 9 78 <0.2 1.4 Bottom 28.0 7.9 22.6 69.3 4.8 7.8 0.4 33 28.0 79 22 6 69.3 4.8 15.4 78 <0.2 1.6 1.0 0.2 48 28.7 7.8 <0.2 1.8 28.7 7.8 15.8 Surface 81.6 5.8 2.0 0.2 28.7 7.8 15.8 81.6 7.7 74 <0.2 1.0 6 2.0 7.8 5.5 10.0 76 4.1 0.2 16 28.4 16.3 < 0.2 821708 IM8 Cloudy Moderate 09:52 8.2 Middle 28.4 7.8 16.3 77.3 9.3 76 807857 1.9 4 1 0.2 7.8 16.3 77.3 5.5 10.0 6 75 <0.2 16 28.4 77 77 7.8 7.8 7.2 0.2 44 28.2 19.4 83.0 5.8 10.2 8 <0.2 1.7 Bottom 28.2 7.8 19.4 83.0 5.8 7.2 0.2 44 28.2 1.6

DA: Depth-Average

Water Quality Monitoring Results on 15 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.3 28.6 1.0 33 15.7 80.2 6.6 -02 2.0 Surface 28.6 7.8 80.2 7.8 15.7 5.7 74 1.0 0.3 33 28.6 80.2 6.6 -02 19 3.9 0.2 40 28.4 7.9 16.4 76.6 5.4 9.8 6 75 < 0.2 1.9 IM9 09:40 7.8 Middle 7.9 16.4 76.6 9.9 75 822106 808808 2.0 Cloudy Moderate 3.9 0.2 43 28.4 7.9 16.4 76.6 5.4 9.8 75 <0.2 2.2 6.8 0.2 288 28.1 7.8 19.6 13.2 76 <0.2 2.2 7.8 77.1 5.4 Rottom 28.1 196 6.8 300 28.1 7.8 19.6 5.4 13.2 <0.2 1.0 7.8 74 0.2 16 28.5 15.9 77.4 5.5 6.6 <0.2 2.0 Surface 28.5 7.8 15.9 77.3 7.8 15.9 77.1 5.5 73 1.0 0.2 17 28.5 6.6 5 <0.2 2.1 5.3 3.8 75 75 0.2 20 27.9 7.8 18.7 72.6 5.1 8.1 <0.2 1.9 IM10 Cloudy Moderate 09:27 7.6 Middle 27.9 7.8 18.7 72.6 7.9 75 822251 809843 2.0 2.0 3.8 0.2 20 27.9 7.8 18.6 72.5 5.1 8.2 4 < 0.2 6.6 0.2 310 27.7 7.8 23.4 5.4 8.8 76 <0.2 2.1 27.7 7.8 23.4 77.5 Bottom 6.6 0.2 321 27.7 7.8 23.4 5.4 8.8 77 1.9 75 0.6 28.3 2.3 7.8 16.0 5.5 < 0.2 Surface 28.3 7.8 16.0 77.0 1.0 0.6 320 7.8 16.0 77.0 5.5 7.1 75 2.1 28.3 8 < 0.2 4.4 0.5 279 27.9 7.8 18.5 76.2 5.4 7.3 6 7 76 < 0.2 2.1 821511 810525 IM11 Cloudy Moderate 09:16 8.7 Middle 27.9 7.8 18.5 76.2 2.1 4.4 0.5 306 27.9 7.8 18.5 76.2 5.4 7.3 76 < 0.2 1.9 7.7 0.1 275 28.0 7.8 21.7 85.6 5.9 8.2 6 77 77 <0.2 2.2 Bottom 28.0 7.8 21.7 85.6 5.9 0.1 279 28.0 7.8 21.7 85.6 59 8.2 8 < 0.2 2.0 1.0 0.5 305 28.4 7.8 6.5 75 <0.2 2.0 16.1 5.6 16.1 Surface 28.4 7.8 79.0 7.8 78.9 5.6 75 1.9 1.0 0.5 320 28.4 16.1 6.5 <0.2 7.2 4.7 0.5 284 27.8 7.8 19.4 70.4 5.0 76 <0.2 1.9 19.4 821162 IM12 Cloudy Moderate 09:12 93 Middle 27.8 7.8 70.4 76 811517 7.8 19.4 70.4 5.0 7.2 76 <0.2 1.8 4.7 0.5 311 27.8 6 77 8.3 0.2 292 27.7 7.8 23.1 73.3 5.1 8.6 <0.2 1.8 Bottom 7.8 23.1 73.3 8.3 0.2 307 27.7 7.8 23.1 73.3 5.1 8.6 77 <0.2 2.0 1.0 0.5 303 28.4 <0.2 1.8 7.8 16.1 5.8 6.3 Surface 28.4 7.8 16.1 81.3 1.0 7.8 16.1 5.8 6 75 2.0 0.6 330 28.4 6.3 <0.2 5.8 4.5 821472 814166 SR2 Cloudy Moderate 08:42 Middle 76 20 76 3.5 0.2 288 28.0 18.9 80.7 5.7 6.7 <0.2 19 Bottom 28.0 7.8 18.9 80.7 5.7 80.7 5.7 3.5 7.8 18.9 6.7 77 0.2 296 28.0 6 -02 21 1.0 0.3 28 28.6 7.8 15.6 82.7 5.9 7.0 6 Surface 28.6 7.8 15.6 82.7 1.0 0.3 28.6 7.8 15.6 82.7 5.9 7.0 4.8 0.3 29 28.6 7.9 9.2 SR3 09:56 96 Middle 28.6 7.9 16.3 77.0 822152 807590 Moderate 96 6 Cloudy 4.8 0.4 28.6 7.9 16.3 5.5 9.2 8.6 0.2 7.8 12.7 55 27.9 21.2 68.9 4.8 5 21.2 68.9 4.8 Bottom 27.9 7.8 7.8 68.9 4.8 12.7 8.6 0.3 27.9 224 1.0 0.2 28.3 7.9 6.0 8.0 Surface 28.3 7.9 16.6 83.9 7.9 83.8 1.0 0.2 244 28.3 16.6 6.0 8.0 5.1 0.3 253 28.1 7.8 4.7 11.5 6 SR4A 08:45 7.8 18.3 65.9 817185 807806 Foggy Moderate 10.1 Middle 28.1 5.1 0.3 261 28.1 7.8 18.3 65.7 4.6 11.5 0.2 252 27.7 7.8 4.0 14.1 10 24.5 27.7 57.7 Bottom 7.8 24.5 4.0 9.1 0.2 269 27.7 7.8 4.0 14.4 24.5 8 1.0 0.2 332 28.3 7.8 17.6 78.5 5.5 10.3 9 Surface 28.3 7.8 17.6 78.5 78.5 1.0 305 7.8 5.5 0.2 28.3 17.6 10.3 SR5A 08:28 5.4 Middle 12.6 10 816588 810712 Foggy Moderate 4.4 0.2 306 28.2 18.4 14.9 10 7.8 5.2 74.4 7.8 18.4 5.3 Bottom 28.2 74.4 0.2 320 28.2 7.8 18.4 14.9 10 1.0 0.2 276 28.3 7.8 16.8 78.9 5.6 11.8 7.8 16.8 78.9 Surface 28.3 16.8 78.9 5.6 7.8 1.0 0.2 283 28.3 11.8 6 SR6 08:01 4.5 Middle 13.5 817902 814665 Foggy Moderate 0.0 269 28.3 15.1 76.4 5.4 28.3 7.7 17.9 76.4 5.4 Bottom 3.5 17.9 76.4 5.4 15.2 0.0 28.3 0.6 28.3 7.8 16.4 6.5 Surface 28.3 7.8 16.4 79.4 5.7 1.0 0.6 304 28.3 7.8 16.4 79.4 6.5 11.2 8 1 0.5 273 27.7 7.8 20.1 70.3 49 4 SR7 Cloudy Moderate 08:16 16.2 Middle 7.8 20.1 70.3 9.8 823618 823735 7.8 70.3 4 8 1 0.6 298 27.7 20.1 49 11 2 15.2 0.1 270 27.6 7.8 23.4 74.6 5.2 11.6 Bottom 27.6 7.8 23.4 74.6 5.2 15.2 0.1 281 27.6 7.8 23.4 74.6 5.2 11.6 1.0 0.4 307 28.4 7.8 16.0 6.3 7.8 16.0 Surface 28.4 83.4 83.4 1.0 0.5 329 28.4 7.8 16.0 5.9 6.3 6 5.9 SR8 Cloudy Moderate 08:47 5.1 Middle 820408 811576 4.1 0.2 282 28.1 7.8 6.5 6.8 28.1 7.8 18.3 91.5 7.8 4.1 0.2 282 28.1 8

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 15 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Turbidity(NTU) Sampling Water Water Temperature (°C) Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 1.0 0.4 205 29.7 8.0 16.3 5.1 73 97.3 6.8 -n 2 1.5 Surface 29.7 1.0 0.4 209 29.7 8.0 16.3 97.3 6.8 5.1 73 <0.2 1.4 4.3 0.3 207 29.5 8.0 16.5 93.0 6.5 7.5 5 75 < 0.2 1.4 C1 16:17 8.5 29.5 8.0 16.5 92.9 815636 804247 Cloudy Moderate Middle 9.5 75 4.3 0.3 223 29.5 8.0 16.5 92.7 6.5 7.6 75 <0.2 1.3 6 7.5 77 0.4 230 28.5 7.8 26.1 75.3 5.1 15.6 <0.2 1.5 Botton 7.8 75.7 76.1 5.1 77 7.5 0.5 249 28.5 7.8 26.0 15.8 <0.2 1.5 1.0 164 0.2 28.8 7.8 16.2 82.6 5.8 6.3 73 <0.2 1.8 16.2 82.6 28.8 7.8 Surface 16.2 73 1.8 1.0 0.2 174 28.8 7.8 82.6 5.8 6.3 6 <0.2 5.3 75 75 2.0 6.2 0.2 190 28.0 7.7 19.7 66.5 4.7 6.8 <0.2 7 7.7 66.5 825687 806945 C2 Cloudy Rough 15:07 12.3 Middle 28.0 19.7 75 7.7 19.7 4.7 6.2 0.2 192 66.5 6.8 < 0.2 28.0 11.3 0.2 234 27.5 26.9 75.4 5.1 7.9 8 77 <0.2 2.0 Bottom 26.9 75.4 75.4 5.1 77 11.3 0.2 250 27.5 26.9 7 9 7 <0.2 19 1.0 0.1 91 28.2 7.8 19.5 78.0 5.5 6.9 8 76 <0.2 1.6 Surface 28.2 7.8 19.5 78.0 1.0 0.1 7.8 19.5 78.0 5.5 75 <0.2 1.4 98 28.2 6.9 6.6 0.2 9.1 10 76 1.5 28.0 7.8 20.0 68.9 4.8 < 0.2 C3 16:53 28.0 7.8 20.0 68.9 822099 817805 13.1 Middle 99 Cloudy Moderate 68.9 4.8 77 1.4 6.6 28.0 7.8 20.0 <0.2 0.2 318 9.1 8 12.1 7.8 7.8 13.8 77 1.5 0.2 112 25.4 25.4 25.4 67.7 4.7 4.7 <0.2 27.1 9 Bottom 27.1 7.8 67.7 4.7 78 0.3 119 27.1 9 <0.2 1.3 1.0 0.3 173 29.6 8.0 16.1 96.4 6.7 4.6 73 <0.2 1.3 29.6 8.0 16.1 96.2 Surface 1.0 0.3 174 29.6 8.0 16.1 95.9 6.7 4.6 73 <0.2 1.4 3.6 0.3 29.1 5.3 7.5 76 < 0.2 1.5 15:51 7.9 17.3 76.3 818355 806472 IM1 Cloudy Moderate 7 1 Middle 29 1 7.9 17.2 76.0 5.3 75 <0.2 1.6 3.6 0.3 194 29.1 7.6 6 6.1 167 7.8 5.7 76 < 0.2 1.3 0.2 28.6 25.0 84.9 8.1 8 Botton 28.6 7.9 25.0 85.5 5.8 7.9 5.8 7.7 77 25.0 1.3 6.1 0.2 28.5 86.0 8 < 0.2 1.0 0.1 125 29.4 8.0 16.1 96.9 6.8 6.3 73 <0.2 1.4 16.1 96.9 Surface 8.0 96.9 74 1.0 0.1 135 29.4 8.0 16.1 6.8 6.4 6 <0.2 1.6 4.5 0.2 173 28.9 7.9 20.0 67.9 4.7 8.6 6 75 <0.2 1.8 20.0 818853 IM2 15:41 8.9 Middle 28.9 7.9 67.9 75 806210 Cloudy Moderate 4.5 0.2 28.9 7.9 20.0 4.7 8.6 75 <0.2 2.0 7.9 0.2 185 28.4 7.8 24.5 24.5 72.5 4.9 9.5 10 77 <0.2 Bottom 28.4 7.8 72.8 5.0 7.9 7.8 24.4 5.0 9.4 77 1.7 0.2 191 28.4 < 0.2 1.0 8.0 5.2 5.3 74 0.2 159 29.7 15.3 96.6 6.8 4 <0.2 1.8 15.3 96.5 Surface 29.7 8.0 15.3 96.3 1.0 0.2 168 29.7 8.0 5 73 < 0.2 1.6 4.3 0.3 203 29.1 7.9 17.3 70.9 5.0 8.9 4 75 <0.2 1.7 IM3 15:34 8.6 Middle 7.9 17.3 70.7 819408 806024 Cloudy Moderate 4.3 0.3 214 29.1 7.9 70.4 4.9 8.9 4 76 <0.2 1.5 77 <0.2 1.6 0.2 27.9 22.9 4.9 11.0 Bottom 27.9 7.8 23.2 71.9 5.0 7.6 77 0.2 238 27.9 7.8 5.0 6 <0.2 1.0 0.1 29.0 8.0 6.6 6.2 74 <0.2 1.6 39 15.1 92.8 5 Surface 29 0 8.0 15.1 92.3 1.0 8.0 15.1 73 1.6 0.1 41 29.0 91.8 6.5 6.4 5 < 0.2 41 0.1 126 28.2 8.0 19.0 68.4 4.8 10.3 5 75 < 0.2 1.7 IM4 15:26 8.2 19.0 67.5 10.5 819576 805037 Cloudy Moderate Middle 4.1 0.1 133 28.2 8.0 18.9 66.6 4.7 10.2 75 <0.2 1.5 7.2 0.2 177 27.8 7.9 25.0 4.5 14.9 77 <0.2 1.3 65.6 Bottom 27.8 7.9 25.0 65.8 4.5 7.2 0.2 178 7.9 25.0 65.9 4.5 15.1 77 <0.2 1.5 27.8 1.0 0.1 190 5.9 73 1.8 29.0 8.0 14.2 6.6 <0.2 14.2 92.8 Surface 29.0 8.0 1.0 0.1 193 29.0 8.0 14.2 92.7 6.6 5.9 73 <0.2 2.0 6 7.7 76 75 <0.2 1.8 3.8 0.2 179 28 4 7.9 17.2 77.9 76.9 5.5 5.4 IM5 Moderate 15:14 7.5 Middle 28.4 7.9 17.0 77.4 820568 804922 Cloudy 16.8 79 3.8 0.2 189 28.4 8 1 8 6.5 0.1 202 28.1 7.9 23.8 76.4 5.2 10.2 76 <0.2 1.9 Bottom 28.1 7.9 23.8 76.7 5.3 6.5 0.1 220 28.1 79 23.8 76.9 5.3 9.8 77 <0.2 1.8 29.1 29 1 14.1 95.5 Surface 8.0 1.0 0.4 62 29.1 8.0 14.1 95.5 6.8 5.9 73 <0.2 1.7 5 5.9 1.9 3.7 0.2 102 28.3 7.9 16.3 70.2 5.0 8.3 6 76 < 0.2 7.9 70.2 821063 805826 IM6 Cloudy Moderate 15:08 7.4 Middle 28.3 16.3 75 75 3.7 7.9 70.2 0.2 103 16.3 5.0 8.4 6 < 0.2 28.3 6.4 0.2 149 28.0 7.9 23.3 70.2 4.8 8.7 77 <0.2 1.8 Bottom 28.1 7.9 23.2 70.3 4.8 77 6.4 0.2 155 28.1 7.9 23.0 70.3 4.8 8.5 8 <0.2 1.8 1.0 0.3 29.0 8.0 14.7 92.1 6.5 6.4 73 <0.2 1.8 Surface 29.0 8.0 14.7 92.1 1.0 0.3 29.0 8.0 14.7 92.0 6.5 6.5 73 <0.2 1.7 4.4 0.3 103 28.4 7.9 17.7 74.1 5.2 9.4 75 <0.2 1.8 8 IM7 14:55 7.9 17.7 74.1 8.8 75 821356 806827 Cloudy Moderate 8.8 Middle 28.4 4.4 7.9 74.0 5.2 9.5 75 <0.2 1.6 0.3 103 28.4 76 77 7.8 0.2 128 <0.2 1.6 28.2 7.8 19.5 5.3 10.6 Botton 28.3 7.8 19.5 76.1 5.3 76.3 7.8 19.4 10.6 10 7.8 0.2 128 28.3 < 0.2 1.5 1.0 0.4 108 28.9 7.9 6.6 6.8 <0.2 Surface 28.9 7.9 15.3 92.4 1.0 0.4 28.9 7.9 15.3 92.4 6.6 6.8 4 74 <0.2 1.6 7.8 0.3 159 28.4 7.8 74.9 5.3 8 75 <0.2 1.7 821710 74.9 807836 IM8 Cloudy Rough 15:37 8.4 Middle 28.4 7.8 16.7 75 7 75 1.6 4.2 0.3 170 28.4 7.8 16.7 74.9 5.3 7.8 < 0.2 76 77 7.4 0.1 55 28.1 7.8 21.1 80.5 5.6 8.4 9 < 0.2 1.9 7.8 21.1 Rottom 28.1 80.5 5.6 7.4 7.8 5.6 1.8 0.1 55 28.1 80.5 8.4 < 0.2

DA: Depth-Averaged

Water Qua Water Qua			lts on		15 June 17	during Mid-E	Ebb tide																		
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	mperature (°C)	pН	Sa	linity (ppt)		aturation (%)	Dissol		Turbidity(N		nded Solid ma/L)	ls Total Alkalinit	Coordinate		Chromium (µg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Dep	oth (m)	(m/s)	Direction	Value	Average	Value Ave	erage Valu	e Averaç		Average			Value	DA Valu		Value DA	HK Grid (Northing)	HK Grid (Easting)		Value DA
					Surface	1.0	0.4	124 132	28.6 28.6	28.6	7.8	7.8		76.8 76.8	76.8	5.4 5.4		6.1	7 6		74 75			<0.2	2.2
IM9	Cloudy	Rough	15:45	7.6	Middle	3.8	0.3	142	28.3	28.3	7.0	7.8	16.8	70.0	72.3	5.1	5.3	7.6	7.6		75 76 76	822080	808804	<0.2 <0.2 <0.2	0.1
					Bottom	6.6	0.2	127	28.1	28.1	7.8 .	7 0 19.	10.5	72.8	72.8	5.1	5.1	9.1	8		78			<0.2	1.8
					Surface	6.6 1.0	0.2 0.5	131 98	28.1 28.8	28.8	7.8	19. 7 9 16.	16.2	82.7	82.7	5.1 5.8		9.1 6.3	9		77 75			<0.2	2.0 1.8
IM10	Cloudy	Rough	15:52	7.6	Middle	1.0 3.8	0.5	103 115	28.8 28.6	28.6	7.9	7.8 16.	16.5	77.7	77.6	5.8 5.5	5.7	6.3 8.6	9.2		74 76 76	822239	809838	<0.2	2.0
	Cidady	i iougii	10.02	7.0	Bottom	3.8 6.6	0.5	126 97	28.6 28.0	28.0	7.8	7.8		77.5	73.8	5.5 5.2	5.2	8.8 12.5	7		76 77	OLLLOO	000000	<0.2	2.0
						6.6 1.0	0.3	104 96	28.0 28.8		7.8	20.		73.8		5.2 6.1	5.2	12.5 7.8	9		78 75			<0.2	2.0
					Surface	1.0	0.6	97 90	28.8 28.6	28.8	7.9	16.	10.5	86.0	86.0	6.1 5.8	6.0	7.8 10.7	8		76			<0.2	1.8
IM11	Cloudy	Rough	16:02	8.8	Middle	4.4 4.4 7.8	0.6	98	28.6	28.6	7.9	7.9	, 16.7	81.4	81.4	5.8		10.7	10.3	8	76 77 78	821494	810528	<0.2 <0.2 <0.2	2 1.5 1.7
					Bottom	7.8	0.3	112	28.0	28.0	7.9	7.9 20.	20.0	/3.1	73.1	5.1	5.1	12.4	8		77			<0.2	1.6
					Surface	1.0	0.6	91 97	28.7 28.7	28.7	8.0	3.0 17.	17.1	94.2	94.2	6.6	6.6	6.5 6.5	7		74 75			<0.2 <0.2	1.4
IM12	Cloudy	Moderate	16:07	8.3	Middle	4.2 4.2	0.5	97 106	28.6 28.6	28.6	8.0	3.0 17.		91.9 91.9	91.9	6.5 6.5	-	6.6	7.2	- 8	75 76	821160	811519	<0.2	1.2
					Bottom	7.3 7.3	0.4	84 88	28.3 28.3	28.3	8.0	3.0		85.1 85.1	85.1	6.0	6.0	8.5 8.5	9		77 77			<0.2	1.4
					Surface	1.0	0.6 0.7	89 89	28.7 28.7	28.7	7.9	7.9		87.5 87.5	87.5	6.2		6.2	6 7		76 75			<0.2	1.5
SR2	Cloudy	Moderate	16:31	4.8	Middle	-	-	-	-	-	-		-	-	-	-	6.2	-	7.8	7	- 77	821482	814151	- <0.2	
					Bottom	3.8	0.3	94 99	28.2 28.2	28.2	7.9	7.9		84.6 84.7	84.7	6.0	6.0	9.4	8		77 78			<0.2	1.6
					Surface	1.0	0.3	82 84	28.8	28.8	70	7.8 15.	15.0	84.1	84.1	5.9		6.7	9		-			-	-
SR3	Cloudy	Rough	15:30	9.4	Middle	4.7	0.2	152 152	28.2	28.2	7.0	7.8	17.1	70.7	70.7	5.0	5.5	8.9	8.3		-	822136	807581		-
					Bottom	8.4 8.4	0.1	41	28.0	28.0	7.0	7.8 23.	22.0	7/ 0	74.8	5.2	5.2	9.4	7 8		-			-	-
					Surface	1.0	0.2	66	28.8	28.8	8.1	16.	16.4	92.9	92.7	6.5		6.3	8		-			-	+
SR4A	Cloudy	Moderate	16:40	8.8	Middle	1.0 4.4	0.2	68 67	28.8 28.2	28.2	8.0	19.	19.8	69.5	69.4	6.5 4.9	5.7	6.3 10.6	10.0	11	-	817194	807822	-	-
	,				Bottom	4.4 7.8	0.1	71 78	28.2 27.8	27.8	7.9	7.0 24.	24.2	62.3	63.2	4.8 4.3	4.4	10.4 13.2	16		-			-	-
					Surface	7.8 1.0	0.1	79 41	27.8 28.2	29.8	7.9	7.9		64.1	89.1	4.4 6.5	7.7	13.3	15 9		-			-	-
0054			10.50			1.0	0.1	42	31.4		7.9	16.	17.1	87.0	09.1	5.9	6.2	10.5	10		-	0.4.0000	010711	-	-
SR5A	Cloudy	Moderate	16:58	5.0	Middle	4.0	0.1	50	28.8	-	8.0	17.	-	89.9	-	6.3		10.6	10.5	12	-	816600	810714	-	-
					Bottom	4.0	0.1	54 353	28.8	28.8	8.0	17.	17.5	90.0	90.0	6.3	6.3	10.5	14		-			-	
					Surface	1.0	0.2	325	30.7	29.8	7.9	7.9		87.2	89.0	6.0	6.2	8.5	6		-			-	-
SR6	Cloudy	Moderate	17:20	4.2	Middle	-	-	-	-	-	-		-	-	-	-		-	10.5	9	-	817891	814659	-	-
					Bottom	3.2	0.1	71 74	28.5 28.5	28.5	7.9	7.9	17.5	89.2	89.0	6.3	6.3	12.8 12.6	12 10		-			-	-
					Surface	1.0	0.6	84 90	28.5 28.5	28.5	7.8	7.8		83.0 83.0	83.0	5.8 5.8	5.8	5.1 5.1	7		-				-
SR7	Cloudy	Moderate	17:24	16.8	Middle	8.4 8.4	0.1	38 40	28.4 28.4	28.4	7.8	7.8 18.		81.1 81.1	81.1	5.7 5.7	5.0	4.9 4.9	5.0 6	_ ′	-	823623	823752	-	-
					Bottom	15.8 15.8	0.2	135 144	28.3 28.3	28.3	7.8	7.8		81.8 81.8	81.8	5.8 5.8	5.8	5.1 5.1	9	7	-			-	-
					Surface	1.0	0.4	95 95	28.6 28.6	28.6	7.0	7.9	176	96.2	86.3	6.1	F	7.6 7.6	8 9		-			-	-
SR8	Cloudy	Moderate	16:19	4.8	Middle	-	-	-	-	-	-		-	-	-	-	6.1	-	7.8	10	-	820426	811584	-	-
					Bottom	3.8	0.1	129	28.5	28.5	7.0	7.9		85.1	85.1	6.0	6.0	7.9	12		-			-	-
DA: Denth-Ave	<u> Ц</u>					3.8	0.1	141	28.5		7.9	18.	!	85.1	1	6.0		7.9	10		-				

Water Quality Monitoring Results on 17 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Turbidity(NTU) Sampling Water Water Temperature (°C) Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.2 29 1 1.0 53 120 74 Surface 29.1 7.9 12.0 79 1.0 0.2 56 29 1 79 N 5.7 74 71 -02 1.8 4.4 0.3 47 28.8 7.9 16.1 67.6 4.8 8.2 4 74 <0.2 1.9 C1 11:21 8.8 Middle 7.9 16.1 67.6 8.9 5 74 815603 804229 1.8 Rainy Moderate 4.4 0.3 47 28.8 7.9 16.1 67.6 4.8 8.2 5 73 <0.2 1.9 7.8 0.4 43 27.3 7.8 28.7 11.2 6 77 <0.2 1.8 7.8 28.7 63.6 4.3 Rottom 27.3 0.4 7.8 28.7 63.6 4.3 <0.2 1.8 1.0 173 7.7 67 0.3 28.7 10.4 78.8 5.8 6.5 4 <0.2 2.7 Surface 28.7 7.7 10.4 78.7 78.6 10.4 5.8 2.6 1.0 0.3 183 28.7 6.5 6 68 <0.2 5.3 5.3 0.7 57 7.7 5.7 75 28.2 18.9 68.2 4.8 <0.2 2.2 825665 C2 Rainy Moderate 10:18 10.6 Middle 28.2 7.7 18.9 68.2 62 73 806939 2.5 5.7 74 5.3 0.7 58 28.2 18.9 68.2 4.8 4 < 0.2 2.5 9.6 1.1 74 28.0 7.7 22.6 72.2 5.0 6.4 75 < 0.2 2.3 7.7 22.6 72.2 5.0 Bottom 28.0 9.6 1.2 74 28.0 7.7 22.6 6.4 76 2.4 222 4.4 0.3 7.8 73 1.4 28.2 16.1 < 0.2 Surface 28.2 7.8 16.1 71.8 1.0 0.3 234 7.8 16.1 71.8 5.1 4.4 74 1.4 28.2 3 < 0.2 75 76 1.5 6.9 0.4 257 27.7 7.8 19.2 62.3 4.4 4.8 4 < 0.2 822119 817792 C3 Rainy Moderate 11:56 13.8 Middle 27.7 7.8 19.2 62.3 4.5 1.5 6.9 0.4 268 27.7 7.8 19.2 62.3 4.4 4.8 3 < 0.2 1.5 12.8 0.5 312 27.0 7.7 28.0 71 1 4.8 42 6 77 <0.2 1.5 Bottom 27.0 7.7 28.0 71.1 4.8 78 12.8 0.5 335 27.0 28.0 71.1 4.8 42 6 <0.2 1.6 1.0 0.6 27 28.5 8.0 17.1 7.9 71 1.4 16.7 6 <0.2 72.6 Surface 28.5 8.0 8.0 17.4 72.6 5.1 71 1.4 1.0 0.7 29 28.5 7.9 <0.2 3.9 0.5 36 28.1 7.9 20.3 58.9 4.1 9.7 5 74 < 0.2 1.4 7.9 20.3 58.8 818336 IM1 Rainv Moderate 11:02 77 Middle 28 1 74 806445 1.3 7.9 20.3 58.7 4.1 9.7 74 <0.2 1.3 3.9 0.5 36 28.1 77 25.3 60.2 6.7 0.3 27.5 7.9 25.3 4.1 11.9 <0.2 1.3 Bottom 7.9 60.2 6.7 0.3 27.5 79 25.3 60.2 41 11 9 6 77 <0.2 12 1.0 0.5 342 28.5 8.4 8.0 5.5 <0.2 1.4 Surface 28.5 8.0 15.5 77.2 1.0 0.5 28.5 8.0 15.5 5.5 8.5 71 <0.2 1.5 315 73 1.4 4.6 0.4 28.3 7.9 18.8 64.6 4.5 9.7 <0.2 6 10:55 28.3 7.9 64.6 818832 806179 IM2 Rainv Moderate 9.1 Middle 18.8 4.6 0.4 336 28.3 7.9 18.8 64.5 4.5 9.8 74 <0.2 1.4 77 8 1 0.5 358 27.4 79 27.0 27.0 68 1 4.6 146 < 0.2 14 Bottom 27.4 7.9 27.0 68.1 4.6 77 7.9 68 1 8 1 0.5 329 4.6 5 27.4 146 -n 2 1 4 1.0 0.3 285 28.8 7.9 11.8 79.0 5.7 8.7 4 72 <0.2 2.0 Surface 28.8 7.9 11.8 78.9 1.0 0.3 289 28.8 7.9 11.8 78.8 5.7 8.7 71 <0.2 1.9 4.3 0.4 332 28.2 7.9 17.4 4.7 9.7 74 <0.2 1.8 IM3 10.48 8.6 Middle 28.2 7.9 17.4 66.0 10.7 819412 806026 Rainv Moderate 4.3 0.4 357 28.2 7.9 17.4 65.9 4.7 9.8 74 <0.2 1.7 77 7.6 0.2 7.9 27.4 27.4 13.7 1.8 27.2 57.3 3.9 4 <0.2 27.4 57.3 3.9 Bottom 27.2 7.9 7.9 57.3 3.9 13.7 77 1.9 7.6 0.2 27.2 < 0.2 6 270 74.0 73.0 1.0 0.4 28.7 8.0 12.4 5.3 9.8 72 71 <0.2 1.8 Surface 28.7 8.0 12.5 73.5 5.3 1.8 1.0 0.4 293 28.7 8.0 10.1 5 < 0.2 4.0 0.3 314 28.5 7.9 67.0 4.7 11.3 74 <0.2 1.9 IM4 10:40 28.5 7.9 18.7 67.0 819552 805047 Rainv Moderate 8.0 Middle 4.0 0.3 326 28.5 7.9 18.7 67.0 4.7 11.3 74 <0.2 1.8 0.2 27.1 7.9 4.5 14.4 10 76 <0.2 2.0 28.2 66.1 27.1 7.9 28.2 66.1 Botton 4.5 7.0 0.2 27.1 7.9 28.2 66.1 4.5 14.4 77 2.0 8 < 0.2 1.0 0.2 290 28.8 7.9 11.5 80.2 5.8 8.5 5 71 < 0.2 1.8 11.5 Surface 28.8 7.9 80.2 302 7.9 5.8 5 71 < 0.2 2.0 1.0 0.2 28.8 11.5 80.2 8.5 3.6 0.1 315 28.7 8.0 13.4 67.7 4.9 11.5 5 74 <0.2 1.8 IM5 10:33 7.1 Middle 28.7 8.0 13.4 67.5 12.8 820576 804938 2.0 Rainv Moderate 3.6 0.1 328 28.7 8.0 13.4 67.3 4.8 11.5 74 <0.2 1.9 0.4 18.4 76 <0.2 2.2 27.2 7.9 27.7 49.8 3.4 8 7.9 27.7 49.8 3.4 Bottom 27.2 7.9 49.8 6.1 0.4 27.2 18.4 <0.2 2.4 1.0 0.3 313 28.8 7.9 11.9 5.6 8.7 4 72 <0.2 2.4 28.8 7.9 11.9 77.0 Surface 76.9 5.6 <0.2 2.4 7.9 11.9 8.8 1.0 0.3 314 28.8 4 72 3.5 0.2 308 28.7 7.9 14.4 71.8 5.1 10.6 5 74 <0.2 2.1 IM6 10:26 Middle 7.9 14.4 71.8 821058 805834 2.4 Rainy Moderate 6.9 3.5 0.2 332 28.7 7.9 144 71 7 5.1 10.7 74 < 0.2 5.9 0.2 356 28.2 15.5 77 <0.2 2.5 25.2 5.2 7.9 25.2 76.1 5.2 Bottom 28.2 5.9 7.9 76.1 5.2 15.5 77 <0.2 2.4 0.2 28.2 0.4 247 28.8 7.9 10.3 8.8 71 <0.2 2.5 Surface 28.8 7.9 10.3 78.4 78.3 5.7 71 2.6 1.0 0.4 258 28.8 7.9 10.3 8.9 <0.2 4 74 74 11.6 2.6 4.3 0.3 243 28.7 79 13.7 71 7 5.1 5 <0.2 IM7 Rainy Moderate 10:20 8.5 Middle 7.9 13.7 71.6 12.3 821335 806819 2.5 4.3 79 71.5 5.1 11 7 0.3 256 28.7 4 <n 2 7.5 0.1 152 28.5 7.8 23.2 78.1 5.3 16.5 76 <0.2 2.5 Bottom 28.5 7.8 23.2 78.1 5.3 7.5 0.1 162 28.5 7.8 23.2 78 1 5.3 16.5 77 <0.2 2.5 1.0 0.4 223 28.6 6.9 69 <0.2 2.3 77 11.7 Surface 28.6 79.6 79.6 5.8 70 0.4 227 28.6 6.9 <0.2 2.3 1.0 6 72 71 2.5 4.0 225 7.7 10.8 0.2 28.5 14.0 73.6 5.3 6 < 0.2 14.0 821710 IM8 Rainy Moderate 10:37 7.9 Middle 28.5 7.7 73.6 8.5 73 807820 2.5 4 0 0.2 14 0 73.6 5.3 10.8 4 <0.2 236 28.5 76 77 7.7 7.7 6.9 0.2 211 28.4 20.3 84.5 5.9 7.8 5 <0.2 2.5 Bottom 28.4 7.7 20.3 84.5 5.9 6.9 0.2 230 28.4 4 2.3

Water Quality Monitoring Results on 17 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.2 28.6 1.0 222 119 64 -02 Surface 28.6 82.7 1.0 0.2 223 28.6 11 9 82 7 6.0 6.4 3 70 -02 22 4.0 0.2 282 28.6 7.7 13.5 79.2 5.7 8.6 4 72 < 0.2 2.5 IM9 10:45 7.9 Middle 7.7 13.5 79.2 7.5 72 822087 808814 2.2 Rainy Moderate 4.0 0.2 303 28.6 79.2 5.7 8.6 6 72 <0.2 2.5 6.9 0.2 287 28.6 15.9 7.4 4 73 <0.2 2.0 7.7 15.9 87.0 6.2 Rottom 28.6 6.9 294 28.6 77 87.0 7.4 74 <0.2 1.9 1.0 7.7 70 0.2 28.6 13.4 79.4 5.7 8.2 <0.2 2.0 3 Surface 28.6 7.7 13.4 79.4 79.4 13.4 5.7 70 2.3 1.0 0.2 28.6 8.2 4 <0.2 3.4 353 7.7 0.2 28.4 15.4 76.9 5.5 15.8 4 71 <0.2 2.3 IM10 Rainy Moderate 10:53 6.8 Middle 28.4 7.7 15.4 76.9 11.3 72 822240 809842 2.3 76.9 5.5 15.8 72 3.4 0.2 325 28.4 15.4 4 < 0.2 2.4 5.8 0.2 315 28.4 7.7 19.5 87.3 6.1 9.8 75 <0.2 2.3 7.7 19.5 87.3 Bottom 28.4 5.8 0.2 28.4 7.7 19.5 9.8 74 2.2 293 69 0.2 7.8 6.4 28.7 12.7 80.9 5.8 < 0.2 1.5 Surface 28.7 7.8 12.7 80.9 1.0 0.2 293 28.7 7.8 12.7 80.9 5.8 6.4 70 1.5 3 < 0.2 72 72 4.0 0.3 288 28.5 7.8 15.8 75.3 5.4 9.8 3 < 0.2 1.5 821512 810530 IM11 Rainy Moderate 11:03 8.0 Middle 28.5 7.8 15.8 75.3 8.8 4.0 0.3 298 28.5 7.8 15.8 75.3 5.4 9.8 < 0.2 1.8 7.7 7.0 0.2 308 28 1 22.2 84.3 5.8 10.2 6 75 <0.2 1.8 Bottom 28.1 7.7 22.2 84.3 5.8 76 7.0 0.2 316 28.1 22.2 84.3 5.8 10.2 < 0.2 1.8 1.0 0.3 285 28.7 7.8 4 70 <0.2 2.0 12.8 6.3 12.8 Surface 28.7 7.8 78.7 7.8 12.8 78.7 5.7 69 1.0 0.3 289 28.7 6.3 6 <0.2 4.1 0.5 275 28.2 7.8 16.7 72.7 5.2 6.9 6 73 <0.2 1.6 Middle 72.7 821154 IM12 Rainv Moderate 11:10 8.1 28.2 7.8 16.8 73 811535 7.8 16.8 72.6 5.2 73 <0.2 1.4 4.1 0.5 279 28.2 6.9 5 75 7 1 0.2 275 27.7 7.7 23.9 80.1 5.5 5.5 7.2 6 <0.2 1.5 Bottom 23.9 80.1 5.5 7 1 0.2 287 27.7 77 23.9 80.1 72 76 <0.2 1.5 1.0 0.2 139 28.3 10.0 7.8 16.0 78.4 5.6 <0.2 1.3 Surface 28.3 7.8 16.0 78.4 1.0 0.2 147 7.8 10.0 8 72 1.4 28.3 5.6 <0.2 5.6 SR2 11:34 44 821475 814153 Rainv Moderate Middle 73 1.5 75 34 0.2 165 28 1 18.6 80.6 5.7 12.2 10 <0.2 16 Bottom 28.1 7.8 18.6 80.6 5.7 5.7 3.4 167 7.8 18.6 0.2 80.6 12.2 8 74 28 1 -02 1.6 1.0 0.4 254 28.7 7.7 11.3 5.6 6.1 6 Surface 28.7 7.7 11.3 77.2 1.0 0.4 265 28.7 77 11.3 77.2 5.6 6.1 4.4 0.3 262 28.4 14.8 6.6 SR3 10:34 8.7 Middle 28.4 7.7 14.8 73.2 6.5 5 822131 807556 Rainv Moderate 4.4 0.3 263 28.4 14.8 73.1 5.2 6.7 7.7 0.2 243 7.7 28.4 18.4 78.7 5.5 6.6 4 7.7 18.4 78.7 5.5 Bottom 28.4 7.7 78.7 5.5 18.4 6.6 0.2 262 28.4 265 1.0 0.2 28.6 7.8 5.4 11.3 Surface 28.6 7.8 15.5 76.6 76.6 11.2 1.0 0.2 286 28.6 7.8 15.5 5.4 4 4.2 0.1 273 28.4 7.8 17.5 5.0 14.3 SR4A 11:41 7.8 17.6 70.2 13.7 817174 807806 Rainv Moderate 8.4 Middle 28.4 4.2 0.1 28.4 7.8 17.6 4.9 14.3 0.1 268 27.7 4.5 15.5 25.0 65.2 27.7 7.7 65.4 Bottom 25.0 4.5 7.4 0.2 279 27.7 25.0 65.6 4.5 15.5 1.0 0.1 284 28.6 7.8 15.5 81.0 5.8 10.2 8 Surface 28.6 7.8 15.6 81.0 1.0 308 7.8 9 0.1 28.6 15.6 81.0 5.8 10.2 SR5A Moderate 11:58 5.2 Middle 12.0 816603 810689 Rainv 4.2 0.1 347 28.5 17.1 13.7 7.8 86.5 6.1 17.1 7.8 86.5 6.1 Bottom 28.5 86.5 4.2 0.1 359 28.5 7.8 6.1 13.7 1.0 0.1 286 28.7 7.9 13.7 6.0 10.0 83.4 7.9 13.7 83.4 Surface 28.7 6.0 7.9 83.4 1.0 0.1 293 28.7 10.0 5 6.0 SR6 12:21 4.9 Middle 12.6 817893 814643 Rainy Moderate 3.9 0.1 244 28.6 15.2 83.6 6.0 28.6 7.9 14.9 83.6 6.0 Bottom 3.9 0.1 7.9 14.9 83.6 6.0 15.3 265 28.6 0.1 27.9 7.8 19.0 5.2 4.4 Surface 27.9 7.8 19.0 75.9 75.9 1.0 0.1 95 27.9 7.8 19.0 5.3 4.4 6.3 8.4 0.1 318 26.7 7.8 25.0 73.8 5.1 4 SR7 Rainy Moderate 12:31 16.8 Middle 7.8 25.0 73.8 823649 823748 7.8 25.0 73.8 5.1 4 8.4 0.1 328 26.7 6.3 15.8 0.2 293 26.3 7.7 30.2 60.2 4.1 6.2 Bottom 26.3 7.7 30.2 60.2 4.1 15.8 0.2 316 26.3 30.2 60.2 41 6.2 1.0 0.1 88 28.5 7.8 12.4 6.6 28.5 7.8 12.4 Surface 83.9 1.0 0.1 95 28.5 7.8 12.4 83.9 6.1 6.6 5 SR8 Rainy Moderate 11:20 4.2 Middle 820431 811578 3.2 0.1 244 28.4 7.8 6.3 4 28.4 7.8 15.8 87.8 7.8 3.2 0.1 253 28.4 5

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 17 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Turbidity(NTU) Sampling Water Water Temperature (°C) Salinity (ppt) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.4 202 28.7 8.0 13.2 7.6 70 1.0 81.0 5.8 -n 2 16 Surface 28.7 1.0 0.4 203 28.7 8.0 13.1 80.9 5.8 7.7 69 <0.2 1.6 4.1 0.0 357 28.3 7.9 69.0 4.9 8.2 8 73 <0.2 1.8 C1 7.9 17.7 69.0 8.5 815602 804236 1.7 Rainv Moderate 06:16 8.1 Middle 28.3 73 4.1 0.0 328 28.3 7.9 17.6 69.0 4.9 8.2 74 <0.2 1.9 6 75 7.1 0.1 204 27.8 7.9 22.2 4.9 9.6 <0.2 1.7 Botton 7.9 70.7 7 9 70.7 7 1 0.1 216 27.8 22.2 49 9.6 9 76 <0.2 1.6 1.0 181 0.6 28.5 7.8 8.2 6.1 6.9 67 <0.2 2.8 81.7 28.5 7.8 8.2 Surface 7.8 8.2 2.7 1.0 0.6 183 28.5 81.7 6.1 6.9 8 66 <0.2 2.8 5.8 0.1 315 28.4 7.8 16.2 72.1 5.1 5.5 71 <0.2 825666 C2 Rainv Moderate 07:45 11.5 Middle 28.4 7.8 16.2 72.1 806953 2.8 72 5.8 345 7.8 16.2 72.1 5.1 5.5 0.1 < 0.2 28.4 10.5 0.6 28 1 7.8 19.8 73.3 5.1 5.5 8 74 <0.2 2.8 Bottom 7.8 19.8 73.3 5.1 10.5 0.6 28 1 7.8 19.8 73.3 5.5 74 <0.2 2.8 1.0 0.2 288 28.3 7.8 15.4 80.3 5.7 4.9 73 <0.2 1.8 Surface 28.3 7.8 15.4 80.3 1.0 0.2 28.3 7.8 15.4 80.3 5.7 4.9 74 <0.2 1.8 6.6 0.4 4.0 75 1.7 28.1 7.8 17.9 4.8 < 0.2 C3 13.2 28 1 7.8 17.9 68.4 822125 817788 05:51 Middle 42 Cloudy Moderate 68.4 74 6.6 7.8 17.9 4.8 4.0 <0.2 1.8 0.4 320 28.1 12.2 7.7 7.7 25.1 25.1 4.9 4.9 78 77 0.9 341 70.9 70.9 3.8 <0.2 1.6 27.4 Bottom 27.4 7.7 25.1 70.9 4.9 1.0 353 27.4 -02 1.0 0.2 251 28.3 8.0 14.9 4.9 8.5 70 <0.2 1.5 28.3 8.0 14.9 68.1 Surface 1.0 0.2 260 28.3 8.0 14.9 67.8 4.9 8.6 8 70 <0.2 1.4 0.3 27.9 4.8 10.2 73 < 0.2 1.2 7.9 22.8 65.5 818336 806468 IM1 Rainy Moderate 06:36 74 Middle 27.9 73 1.3 3.7 7.9 22.7 65.5 73 1.2 0.3 307 27.9 4.8 10.3 <0.2 6 76 6.4 323 7.9 3.6 14.2 < 0.2 1.2 0.2 27.2 26.9 52.5 6 Botton 27.2 7.9 27.0 52.6 3.6 7.9 27.0 75 52.6 3.6 1.3 6.4 0.3 328 27.2 14.3 6 < 0.2 1.0 0.7 231 28.7 7.9 11.9 76.1 5.5 5.5 9.8 69 70 <0.2 1.7 Surface 7.9 11.9 76.1 7.9 76.1 1.0 0.7 247 28.7 11.9 9.8 8 <0.2 1.5 1.7 4.3 0.2 310 27.5 7.9 23.3 51.6 3.6 8 73 <0.2 818862 IM2 06:41 8.5 Middle 27.5 7.9 23.3 51.6 12.6 806189 Rainv Moderate 4.3 0.2 324 7.9 23.3 73 <0.2 7.5 0.2 27.1 7.9 27.7 16.9 76 <0.2 1.9 51.3 3.5 Bottom 27.1 7.9 27.7 51.3 3.5 7.5 7.9 3.5 16.9 76 1.9 0.2 27.1 < 0.2 1.0 237 70 <0.2 2.1 0.5 28.8 8.0 12.0 74.7 5.4 11.7 12.0 74.7 Surface 28.8 8.0 8.0 74.7 5.4 11.7 69 1.0 0.6 260 28.8 4.2 0.2 301 27.7 7.9 22.5 58.1 4.0 13.0 8 73 <0.2 2.4 IM3 06:51 8.4 Middle 7.9 22.5 58.1 819426 806036 Rainv Moderate 4.2 0.2 323 27.7 7.9 22.5 4.0 13.0 73 <0.2 2.4 75 <0.2 2.5 0.2 27.1 27.9 51.2 3.5 15.0 Bottom 27.1 7.9 27.9 51.2 7.4 7.9 51.2 3.5 76 2.5 0.2 27.1 15.0 <0.2 1.0 8.1 <0.2 2.3 0.1 104 28.6 5.6 10.4 70 13.0 77.6 77.6 11 Surface 28.6 8.1 13.0 1.0 110 8.1 77.5 5.6 11 70 0.1 28.6 10.5 4.0 0.2 326 28.4 8.0 17.4 61.1 4.3 13.1 10 73 < 0.2 2.3 IM4 06:57 7.9 Middle 17.4 61.1 819578 805057 2.2 Rainy Moderate 4.0 0.2 350 28.4 8.0 17.4 61.1 4.3 13.1 12 73 <0.2 2.3 6.9 0.2 12 27.2 7.9 28.1 67.6 4.6 15.7 76 <0.2 2.0 Bottom 27.2 7.9 28.1 67.6 4.6 6.9 0.2 7.9 28.1 67.6 4.6 15.7 12 76 <0.2 2.1 27.2 1.0 0.3 229 28.7 69 2.2 7.9 11.7 5.4 <0.2 28.7 11.7 74.3 Surface 7.9 2.2 1.0 0.4 236 28.7 7.9 74.1 5.4 9.2 70 <0.2 73 74 <0.2 3.6 0.3 256 28.6 7.9 15.1 66.8 4.8 11.5 IM5 Moderate 07:04 7.2 Middle 28.6 7.9 15.1 66.7 12.8 73 820549 804928 2.2 Rainy 7 9 15.1 4.7 66.5 3.6 0.3 266 28.6 116 6.2 0.3 338 27.2 7.9 27.8 61.5 4.2 17.6 9 76 <0.2 2.1 Bottom 27.2 7.9 27.8 61.5 4.2 6.2 0.3 357 27.2 79 27.8 42 17.6 76 <0.2 2.0 8.9 7.9 12.0 77.6 Surface 28.8 1.0 0.4 270 28.8 7.9 12.0 5.6 8.9 70 <0.2 1.9 6 3.5 0.3 262 28.7 7.9 13.6 71.0 5.1 11.0 6 74 <0.2 1.8 7.9 70.9 821062 805836 IM6 Rainy Moderate 07:11 6.9 Middle 28.7 13.6 12.6 73 73 7.9 5.1 3.5 0.3 274 13.6 70.8 < 0.2 28.7 6 5.9 0.3 310 28.0 7.9 24.9 66.5 4.5 17.8 6 76 <0.2 2.0 Bottom 28.0 7.9 24.9 66.5 4.5 5.9 0.3 322 28.0 79 24.9 66.5 45 17.8 76 <0.2 2.0 1.0 0.3 241 28.8 7.9 10.4 78.9 5.8 9.0 69 <0.2 2.3 Surface 28.8 7.9 10.4 78.8 1.0 0.3 28.8 7.9 10.4 78.7 5.7 9.0 70 <0.2 2.2 0.3 28.7 7.8 13.5 74.0 5.3 10.5 73 <0.2 2.3 6 IM7 07:19 7.9 13.5 73.9 73 821333 806824 2.3 Rainy Moderate 8.1 Middle 28.7 4.1 7.9 73.8 5.3 10.5 74 <0.2 2.2 0.3 261 28.7 5 7.1 0.0 186 13.7 76 <0.2 2.2 28.4 7.9 18.7 80.4 5.6 Botton 28.4 7.9 18.7 80.4 7.9 18.7 80.4 13.7 76 < 0.2 7.1 0.0 200 28.4 2.5 1.0 0.5 209 28.7 7.0 69 <0.2 2.0 Surface 28.7 7.7 11.4 78.8 1.0 0.5 215 28.7 7.7 11.4 78.8 5.7 7.0 4 69 <0.2 2.0 9.4 0.5 28.5 76.2 5.4 6 70 <0.2 2.0 821709 807832 IM8 Rainy Moderate 07:18 7.8 Middle 28.5 7.7 15.1 76.2 70 2.0 5 71 1.9 3.9 0.5 237 28.5 15.1 76.2 5.4 9.4 <0.2 72 71 6.8 0.2 253 28.5 7.7 15.6 81.6 5.8 9.7 5 4 < 0.2 2.0 7.7 15.6 5.8 Rottom 28.5 81.6 5.8 6.8 15.6 0.2 254 28.5 81.6 < 0.2 1.9

DA: Depth-Averaged

Water Quality Monitoring Results on 17 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (ppm) (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.2 28.7 1.0 207 125 80.5 5.8 5.9 69 -02 Surface 28.7 80.5 1.0 0.3 224 28.7 80.5 5.8 59 69 -02 2 1 3.3 0.3 201 28.6 7.7 14.0 79.2 5.7 6.3 70 < 0.2 2.2 IM9 07:11 6.6 Middle 7.7 14.0 79.2 6.2 822075 808830 2.1 Rainy Moderate 3.3 0.3 210 28.6 14.0 79.2 5.7 6.3 6 71 <0.2 2.1 5.6 0.6 207 28.5 14.9 6.0 6.5 72 <0.2 2.1 7.7 14.9 83.7 6.0 Rottom 28.5 0.6 7.7 14.9 83.7 73 <0.2 1.0 0.1 181 7.7 69 28.7 12.8 78.7 5.7 7.0 <0.2 2.0 Surface 28.7 7.7 12.8 78.7 12.8 78.7 5.7 7.0 2.0 1.0 0.1 184 28.7 5 69 <0.2 5.5 3.7 7.7 0.3 182 28.6 14.2 74.0 5.3 9.6 71 <0.2 2.0 IM10 Rainy Moderate 07:04 7.4 Middle 28.6 7.7 14.2 74.0 9.0 72 822231 809821 2.0 7.7 74.0 70 2.0 3.7 0.4 182 28.6 14.2 5.3 9.6 5 < 0.2 6.4 0.1 218 28.3 7.7 70.6 5.0 10.3 75 <0.2 2.0 7.7 17.6 70.6 5.0 Bottom 28.3 6.4 0.1 224 28.3 7.7 17.6 10.3 76 2.2 70 0.2 28.6 12.2 6.9 < 0.2 2.0 Surface 28.6 7.7 12.2 79.2 1.0 0.2 146 12.2 79.2 5.7 70 2.2 28.6 6.9 < 0.2 2.2 4.1 0.1 137 28.4 7.7 14.3 77.4 5.6 9.3 6 7 71 < 0.2 7.7 14.3 77.4 821492 810554 IM11 Rainy Moderate 06:54 8.2 Middle 28.4 7.9 2.2 7.7 72 4.1 0.1 137 28.4 14.3 77.4 5.6 9.3 < 0.2 7.2 0.4 290 28.5 77 18.1 85.4 6.0 7.6 6 7 76 <0.2 2.3 Bottom 28.5 7.7 18.1 85.4 6.0 75 72 0.5 292 28.5 18.1 85.4 6.0 7.6 <0.2 22 1.0 0.1 97 28.8 7.7 12.4 12.4 6.4 70 <0.2 5.8 2.1 Surface 28.8 7.7 80.2 12.4 80.2 5.8 69 2.4 1.0 0.2 103 28.8 6.4 6 <0.2 2.3 4.5 0.2 114 28.4 7.8 14.1 67.4 4.9 8.5 5 72 <0.2 Middle 7.8 14.1 67.2 821159 IM12 Cloudy Moderate 06:44 9.0 28.4 8.0 72 811512 22 7.8 14.1 67.0 4.8 71 <0.2 4.5 0.2 123 28.3 8.6 6 8.0 0.3 140 27.5 7.7 24.1 65.1 4.5 9.0 75 <0.2 2.1 Bottom 24.1 65.1 4.5 8.0 0.3 141 27.5 77 24.1 65.1 45 9.0 6 76 <0.2 22 1.0 0.3 42 28.7 <0.2 2.2 7.8 12.4 80.8 5.8 6.2 Surface 28.7 7.8 12.4 80.8 1.0 0.3 42 28.7 7.8 12.4 6 71 2.2 80.8 5.8 6.2 <0.2 5.8 49 821475 814160 SR2 Cloudy Moderate 06:20 Middle 22 70 21 39 0.2 40 28.6 14.6 80.2 5.7 74 6 <0.2 Bottom 28.6 7.8 14.6 80.2 5.7 5.7 3.9 43 7.8 14.6 7.4 0.2 80.2 6 71 28.6 -02 2 1 1.0 0.3 209 28.6 7.7 12.3 74.8 5.4 6.9 5 Surface 28.6 7.7 12.3 74.8 1.0 0.3 225 28.6 77 12.3 74.8 5.4 6.9 4.2 0.2 228 28.4 15.7 8.3 SR3 07:23 84 Middle 28.4 7.7 15.7 71.0 7.5 5 822150 807566 Rainv Moderate 4.2 0.2 240 28.4 5.1 8.3 6 7.4 0.2 7.7 7.4 116 28.3 19.3 76.8 5.4 6 7.7 19.3 76.8 5.4 Bottom 28.3 7.7 76.8 5.4 19.3 7.4 7.4 0.2 119 28.3 270 5.2 5.2 1.0 0.4 28.4 7.9 15.6 73.3 73.3 Surface 28.4 7.9 15.6 73.3 7.9 9.7 1.0 0.4 286 28.4 15.6 6 4.1 0.3 278 27.7 7.9 23.5 55.6 3.8 14.8 SR4A 05:57 8.2 27.7 7.9 23.5 55.6 817176 807820 Cloudy Moderate Middle 4.1 0.3 27.7 7.9 23.5 55.6 3.8 14.8 0.2 272 27.3 7.8 18.4 26.6 59.6 4.1 27.3 59.8 Bottom 7.8 26.6 7.2 0.3 282 27.3 7.8 26.6 4.1 60.0 18.2 6 1.0 0.2 275 28.3 7.9 14.4 82.9 6.0 9.3 8 Surface 28.3 7.9 14.4 82.9 7.9 1.0 281 8 0.2 28.3 14.4 82.9 6.0 9.3 SR5A Cloudy 05:42 5.0 Middle 10.3 816580 810700 Moderate 4.0 0.1 322 28.4 7.8 17.1 11.2 83.0 5.9 17.1 7.8 83.2 5.9 Bottom 28.4 83.3 5.9 4.0 0.1 349 28.4 7.8 11.3 1.0 0.0 330 28.5 7.9 16.3 5.6 14.2 9 7.9 16.3 78.7 Surface 28.5 78.6 5.6 0.0 338 28.5 7.9 16.3 1.0 14.2 8 SR6 05:18 4.0 Middle 817915 814654 Cloudy Moderate 3.0 0.1 28.4 18.7 5.6 28.4 7.8 17.2 78.7 5.6 Bottom 3.0 0.1 17.2 78.7 5.6 18.7 10 280 28.4 0.2 28.2 7.8 15.9 5.8 3.9 81.3 Surface 28.2 7.8 15.9 81.3 15.9 1.0 0.2 27 28.2 7.8 81.3 5.8 3.9 4 4.3 8.2 0.4 24 28.2 7.8 16.8 64.0 46 6 SR7 Cloudy Moderate 05:16 16.3 Middle 28.2 7.8 16.8 64.0 4.2 823619 823743 8.2 24 7.8 16.8 0.4 28.2 64.0 46 4.3 6 15.3 1.7 62 26.7 7.7 28.4 72.0 4.9 4.3 5 Bottom 26.7 7.7 28.4 72.0 4.9 15.3 1.8 26.7 28.4 72 N 49 4.3 1.0 0.1 271 28.5 7.8 12.1 6.3 6.0 28.5 7.8 12.1 Surface 86.3 86.3 1.0 0.1 284 28.5 7.8 12.1 6.3 6.0 4 6.3 SR8 Cloudy Moderate 06:36 5.3 Middle 820417 811585 7.8 7.8 4.3 0.3 28.5 6.5 6.1 28.5 7.8 13.5 89.7 4.3 0.3 285 28.5 89.7 4

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 20 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 28.3 1.0 0.1 91 89 8.7 66 -02 Surface 28.3 7.5 72.4 7.5 1.0 0.1 92 28.3 89 72.4 54 8.7 6 66 -02 28 3.9 0.1 139 28.2 7.6 11.8 64.1 4.7 9.5 6 74 <0.2 2.8 C1 15:33 7.8 Middle 7.7 11.8 63.9 10.0 72 815627 804259 2.8 Cloudy Moderate 3.9 0.1 147 28.2 11.8 63.7 4.7 9.6 73 <0.2 2.9 6.8 0.1 174 27.8 19.7 53.9 3.8 11.7 6 76 <0.2 2.8 7.7 19.4 54.0 Rottom 27.8 3.8 6.8 0.1 7.7 54.0 11.7 <0.2 3.0 1.0 1.0 7.3 63 171 28.1 5.4 64.4 4.9 9.3 11 <0.2 5.0 Surface 28.1 7.3 5.4 64.4 7.3 5.4 64.4 4.9 5.1 1.0 1.0 176 28.1 9.3 12 63 <0.2 73 73 4.8 0.5 165 27.4 7.4 17.4 44.2 3.2 10.8 11 <0.2 5.2 825675 C2 Cloudy Moderate 14:26 9.5 Middle 27.4 7.4 17.4 44.2 10.1 12 71 806959 4.3 5.3 4.8 0.5 167 27.4 7.4 17.4 44.2 3.2 10.8 12 < 0.2 8.5 0.1 302 26.8 7.6 24.3 43.8 3.1 10.2 11 77 <0.2 2.6 7.6 24.3 43.8 Bottom 26.8 8.5 0.1 325 26.8 7.6 24.3 10.2 12 77 2.6 0.5 72 71 4.9 5.9 27.6 7.6 15.0 < 0.2 2.3 Surface 27.6 7.6 15.0 67.0 1.0 0.5 258 27.6 7.6 15.0 66.9 4.9 5.9 2.4 < 0.2 2.4 6.1 0.3 279 27.3 7.6 17.9 58.1 4.2 7.9 6 74 < 0.2 15:57 17.9 58.1 822104 817783 C3 Cloudy Moderate 12.1 Middle 27.3 7.6 7.9 2.3 73 6.1 0.3 287 27.3 7.6 17.9 58.1 4.2 7.9 6 < 0.2 0.4 299 26.4 7.6 25.5 46.4 3.2 9.9 9 76 <0.2 2.3 Bottom 26.4 7.6 25.5 46.4 3.2 0.4 318 26.4 7.6 25.5 46.4 32 99 q 76 <0.2 2.3 1.0 0.6 343 28.0 7.7 14.4 8.4 67 73.3 5.3 9 <0.2 2.3 14.4 73.3 Surface 28.0 7.7 14.4 73.2 5.3 68 2.1 1.0 0.6 345 28.0 8.4 8 <0.2 3.5 0.4 347 27.9 7.7 15.3 65.1 4.7 10.3 10 69 <0.2 2.2 7.7 15.3 65.0 818333 IM1 Cloudy Moderate 15:12 69 Middle 27.9 10.3 10 71 806473 21 15.3 64.8 4.7 70 <0.2 1.9 3.5 0.5 356 27.9 10.3 8 75 5.9 0.4 351 27.2 7.7 27.6 57.8 58.5 3.9 12.2 10 <0.2 2.0 Bottom 27.6 58.2 4.0 5.9 0.4 323 27.2 77 27.6 4.0 12.2 12 75 <0.2 2.0 1.0 0.8 240 28.3 8.8 67 <0.2 2.9 10.1 66.2 4.9 Surface 28.3 7.5 10.1 66.2 1.0 0.9 7.5 10.1 66.2 4.9 8 67 <0.2 3.1 28.3 8.8 4.4 10.0 74 3.9 0.8 27.9 54.9 3.9 <0.2 2.7 17.1 8 15:04 7.8 27 9 7.7 17.1 54.9 818852 806194 IM2 Cloudy Moderate Middle 72 28 3.9 0.8 260 27.9 7.7 17.1 54.9 3.9 10.0 73 <0.2 2.6 8 12 10 6.8 0.2 255 27.2 25.3 25.3 59.2 41 13.4 76 < 0.2 2.6 Bottom 27.2 7.8 25.3 59.6 4.1 7.8 6.8 0.2 255 60.0 41 13.4 76 27.2 -n 2 26 1.0 0.6 239 28.2 7.6 10.1 62.3 4.6 8.3 8 67 <0.2 2.9 Surface 28.2 7.6 10.1 61.9 1.0 0.7 251 28.2 7.6 10.1 61.5 4.5 8.3 67 <0.2 3.1 3.9 0.7 234 28.1 10.2 72 <0.2 3.0 IM3 14:55 77 Middle 28 1 7.6 14.2 60.3 10.6 819403 806037 32 Moderate Cloudy 3.9 0.7 243 28.1 7.6 14.2 60.3 4.4 10.2 72 <0.2 3.3 11 75 6.7 0.1 7.8 <0.2 3.3 223 27.4 21.9 47.8 3.4 13.4 9 21.9 47.8 3.4 Bottom 27.4 7.8 21.9 47.8 7.8 3.4 75 3.5 6.7 0.1 27.4 13.4 < 0.2 237 9 210 1.0 0.3 28.1 7.6 5.1 8.8 68 <0.2 3.0 Surface 28.1 7.6 11.7 69.1 7.6 60 1 5.1 68 3.1 1.0 0.3 226 28.1 8.8 8 < 0.2 3.6 0.2 228 28.0 7.6 12.8 63.6 4.6 10.2 9 70 <0.2 3.0 IM4 14:46 7.2 7.6 12.8 63.5 819575 805045 3.0 Cloudy Moderate Middle 28.0 3.6 0.2 28.0 7.6 12.8 63.4 4.6 10.2 70 <0.2 2.9 6.2 0.3 253 27.6 7.8 4.3 13.9 76 <0.2 2.9 18.2 60.0 7.8 18.2 60.0 Botton 27.6 4.3 6.2 0.3 261 27.6 7.8 18.2 60.0 4.3 13.9 8 76 3.0 < 0.2 1.0 0.1 152 28.1 7.6 10.6 66.6 4.9 10.1 69 < 0.2 3.3 Surface 7.6 10.6 66.6 7 7.6 66.5 4.9 69 < 0.2 1.0 0.1 154 28.1 10.6 10.1 3.3 0.4 272 28.0 7.6 13.1 63.2 4.6 11.1 9 72 <0.2 3.2 IM5 Cloudy 14:37 6.5 Middle 28.0 7.6 13.0 63.2 820581 804915 3.2 Moderate 3.3 0.4 28.0 7.6 12.9 63.2 4.6 11.2 71 <0.2 3.3 5.5 0.5 261 27.7 8 75 <0.2 3.1 7.6 20.7 76.6 5.4 12.1 7.6 20.7 76.6 5.4 Bottom 27.7 7.6 76.6 5.4 75 0.5 27.7 12.1 <0.2 3.0 1.0 0.2 255 28.1 7.6 65.1 4.8 12.5 9 68 <0.2 3.4 11.3 7.6 11.3 65.1 Surface 28 1 11.2 65.1 4.8 67 <0.2 3.3 7.6 12.5 1.0 0.2 280 28.1 8 3.1 0.2 273 27.8 7.7 15.4 57.6 4.2 13.1 8 71 <0.2 2.9 IM6 14:28 Middle 15.2 57.6 821050 805844 3.1 Cloudy Moderate 6.2 72 3.1 0.2 287 27.8 77 15.0 57.6 4.2 13.2 72 < 0.2 3.2 0.5 274 13.6 76 <0.2 3.1 27.6 51.9 7.7 18.7 Bottom 27.6 5.2 0.5 18.4 51.9 3.7 13.4 76 <0.2 2.9 27.6 0.8 27.8 7.6 14.5 54.5 4.0 10.2 10 <0.2 2.9 Surface 27.8 7.6 14.5 54.5 71 2.8 1.0 0.8 241 27.8 7.6 14.5 54.5 4.0 10.2 <0.2 12.5 3.0 2.9 3.6 0.6 239 27.7 15.7 54.3 3.9 11 74 <0.2 IM7 Cloudy Moderate 14:20 7.2 Middle 15.7 54.3 12.2 74 821359 806839 2.8 74 15.7 54.3 3.6 0.7 260 27.7 39 12.5 10 <n 2 6.2 0.5 255 27.6 7.7 19.6 58.3 4.1 14.0 8 76 <0.2 2.6 Bottom 27.6 7.7 19.6 58.3 4.1 6.2 0.5 262 27.6 19.6 58.3 41 14.0 76 <0.2 27 1.0 0.8 192 28.0 7.3 9.4 <0.2 4.4 7.3 7.6 Surface 28.0 63.0 4.1 0.8 204 28.0 7.3 7.6 63.0 4.7 9.4 64 <0.2 1.0 8 4.0 219 8.7 10 67 0.4 27.7 7.4 13.9 55.0 4.0 < 0.2 4.8 13.9 IM8 Cloudy Moderate 14:47 7.9 Middle 27.7 7.4 55.0 9.5 68 821705 807818 3.9 4.6 4 0 0.4 27.7 7.4 13 9 55.0 4.0 8.7 9 66 <0.2 219 7.5 7.5 58.2 58.4 6.9 0.4 253 27.4 17.9 4.2 10.3 8 75 <0.2 2.6 Bottom 27.4 7.5 17.9 58.3 4.2 10 73 6.9 0.4 273 27.4 2.8

DA: Depth-Average

Salisin Sali	Water Qua	ity Monite	oring Resu	lts on		20 June 17	during Mid-		de																			
Marie Mari	Monitoring	Weather	Sea	Sampling	Water	Oii D	de ()	Current Speed	Current	Water Te	mperature (°C)	р	Н	Salir	ity (ppt)				Turbidi	ty(NTU)								
Martin M	Station	Condition	Condition	Time	Depth (m)	Sampling Dep	n (m)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	Value	Average	Value D	A Value	DA	Value	DA	Value	DA				
Monte Mont						Surface					28.0		7.4		6.4		67.8											
Part	IMQ	Cloudy	Moderate	14:55	6.4	Middle	3.2	0.1	212	27.5	27.5	7.5	7.5	16.8	16.8	53.4	53.4	3.8	9.5	90	8	a	71	71	822000	808822	<0.2	4.3
Mile	IIVIO	Oloddy	Woderate	14.55	0.4													4.0	10 E	3.5		J		,,	022033	320000	<0.2	4.3
Markete 100 Markete 100 42 Markete 10						Bottom	5.4	0.1	310	27.4	27.4	7.5	7.5	19.0		56.3	56.3	4.0	10.5		9		76				<0.2	2.7
Miles Mile						Surface					28.0		7.4		6.7		70.4	5.2	0.7	+								
Marchan Marc	IM10	Cloudy	Moderate	15:05	6.2	Middle					27.7		7.5		13.8		58.2	4.2	8.4	8.7		12		69	822231	809840		0.2 4.0 3.8
Mill Gloop Modeles 15/3 78 78 Modeles 15/3 78						Bottom	5.2	0.1	7	27.4	27.4	7.5	7.5	18.0	18.0	55.7	55.7	4.0	0.8	1	16		75				<0.2	3.2
Mile County Moderate St T St St St St St St														7.3				4.0	8.0				64				<0.2	4.2
Mile																				7							-0.0	2.0
M12 Modernia Moder	IM11	Cloudy	Moderate	15:13	7.8	Middle	3.9	0.2	307	27.7	27.7	7.5	7.5	14.2	14.2	60.2	60.2	4.4	8.0	9.8	9	9	68	69	821506	810556	<0.2	4.0
Mode						Bottom					27.3		7.6		20.1		54.7	3.9		+	10		76 76					3.2
Mindage Mind						Surface					27.9		7.4		8.4		67.1	E 0	0.7									
Below Belo	IM12	Cloudy	Moderate	15:20	7.2	Middle	3.6	0.3	298	27.8	27.8	7.6	7.6	12.2	12.2	67.5	67.5	5.0	7.4	8.3	8	8	69	69	821144	811505	<0.2	0.3 3.8
Second S		,																4.4	0.7	+							<0.2	3.6
Second							6.2			27.3		7.6				58.7		4.1	8.7		8						<0.2	3.2
Second Moderate 15-56 A.3 Mode A.3 Mode A.3						Surface	1.0	0.3	334	27.8	27.8		7.5		10.7		73.1	5.4	4 7.0		6		66				<0.2	2.0
SR3 Cloudy Moderate 14.41 7.8 Sulface 1.0 0.9 1.72 25.0 27.0 7.7 7.7 7.7 7.8 7.8 7.7 7.7 7.8	SR2	Cloudy	Moderate	15:45	4.3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7		7		67	821480	814185	- <	0.2 - 2.4
SRA Cloudy Moderate 14.41 7.8 Surface 1.0 0.9 177 28.0 28.0 73 73 77, 77 68.6 68.6 48.8 48.8 43.9 8.8 6. Moderate 14.41 7.8 Moderate 18.24 Moderate 18.25 Moderate 18.24 M						Bottom					27.7	7.6	7.6		12.9	73.5	73.5	5.4 5		1							<0.2	2.7
SR8 Cloudy Moderate 14.41 7,8 Middle 39 0.8 166 296 276 74 74 16.5 15.5 15.5 15.5 15.5 15.5 15.5 15.5						Surface	1.0	0.9	177	28.0	28.0	7.3	7.3	7.7	7.7	63.6	63.6	4.8	9.8		8		-				-	-
Second Fig.	000	Olevetic	Madanta	44.44	7.0															0.7			-		000450	007500	-	
SRAA Cloudy Moderate 15:54 P.2 Surface 1.0 0.4 237 279	SH3	Cloudy	Moderate	14:41	7.8													4.1	10.2	9.7		8	-	-	822152	807560	-	-
SR4A Cloudy Moderate 15:54 7.2 Middle 3.6 0.3 243 279 279 7.7 7.8 7.8 7.8 16.7 16.2 16.2 16.2 16.2 16.2 16.2 16.2 16.2						Bottom	6.8	0.4	241	27.3	27.3	7.5	7.5	19.2		57.8	57.8	4.1	10.3		7		-				-	-
SRAA Cloudy Moderate 15.54 7.2 Middle 3.6 0.3 241 277 7.8 7.8 7.8 16.7 16.7 16.7 16.7 16.7 16.7 16.7 16.7						Surface					27.9		7.8	15.0 15.0	15.0	74.9 74.9	74.9	E 4	12.1	+			-			ŀ		
Bottom 6.2 0.3 249 26.9 7.7 7.7 7.7 26.2 26.2 50.7 50.7 3.5 15.2 11.6 1.5	SR4A	Cloudy	Moderate	15:54	7.2	Middle					27.7		7.8		16.7		61.9	4.5	14.2	14.2		11		-	817198	807823	-	
SR5A Cloudy Moderate 18:14 4.5 Surface 1.0 0.1 313 279 279 7.7 7.7 163 163 163 687 4.9 4.9 125 9 1.0 125 9						Bottom	6.2	0.3	249	26.9	26.9	7.7	7.7	26.2		50.7	50.7	3.5	16.2		14						-	
SRSA Cloudy Moderate 16:14 4.5 Middle 1. 1. 1. 1. 1. 1. 1. 1																		3.5	16.2				-				-	-
Bottom S. Bottom S. S. S. S. S. S. S. S						Surface	1.0			27.9	27.9	7.7	1.1	16.3	10.3		00.7	4.9	9 12.5	1	9		-				-	
SR6 Cloudy Moderate 16:54 3.5 Surface 1.0 0.2 238 28.0 28.0 7.7 7.7 13.9 14.0 74.1 5.4 74.1 5.4 9.7 10.5 10.	SR5A	Cloudy	Moderate	16:14	4.5	Middle	-	-		-	-	-	-	-	-	-	-	-	-	12.9	-	8	-	-	816595	810685	-	
SR6 Cloudy Moderate 16:54 3.5 Surface 1.0 0.2 249 28.0 28.0 7.7 7.7 14.0 14.0 74.0 74.0 74.1 5.4 5.4 9.7 5.6 5.4 0.7 10.5 0.7						Bottom					27.5		7.7		21.0		63.1			+			-			ŀ	-	-
SR6 Cloudy Moderate 16:54 3.5 Middle						Surface					28.0		7.7		14.0		74.1	E 4	0.7				-					
RR Cloudy Moderate 16:22 17.2 Middle 8.6 0.2 293 27.2 27.2 27.2 27.2 7.6 7.6 15.0 17.5 17.5 17.5 17.5 17.5 17.5 17.5 17.5	SR6	Cloudy	Moderate	16:54	3.5	Middle	-	-	-	-	-		_	-	-	-	-		-	10.5	-	4	-	-	817911	814649	-	
SR7 Cloudy Moderate 16:22 17.2 Middle 8.6 0.2 293 27.2 27.2 7.6 7.6 15.6 15.6 15.6 15.6 15.6 15.6 15.6 15		,									07.0	7.7	7.7	15.0	45.0	76.7	70.0	5.5	11.4	+	-							
SR7 Cloudy Moderate 16:22 17.2 Middle 16:2 17.2 Middle 248 27.5 27.5 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6																77.1		5.6	11.3				-				-	-
SR7 Cloudy Moderate 16:22 17.2 Middle 0.0 0.2 2.50 2.72 7.6 7.6 7.6 7.7.6 7.6 7.7.6 7.6 7.7.6 7.6						Surface	1.0	0.6	248	27.5	27.5	7.6	7.6	15.6	15.6	62.2	62.2	4.5	6.8	1	4						-	-
Bottom 16.2 0.4 313 26.8 26.8 7.6 7.6 26.3 26.3 26.3 60.6 60.6 4.2 4.2 9.4 5	SR7	Cloudy	Moderate	16:22	17.2	Middle					27.2		7.6		17.5	54.2 54.2	54.2	3.5	0.0	8.3		5		-	823645	823760		
SR8 Cloudy Moderate 15:32 5.1 Surface 1.0 0.1 319 27.8 27.8 27.8 27.8 27.8 27.8 27.8 27.8						Bottom	16.2	0.4	313	26.8	26.8	7.6	7.6	26.3	26.3	60.6	60.6	4.2	9.4	7	5		-				-	-
SR8 Cloudy Moderate 15:32 5.1 Middle 1.0 0.1 319 27.8 7.5 9.1 7.2 5.4 7.9 6 7.5 8.1 7 7 7 8.20405 811576 7 7 8.1 7 7 7 7 8.20405 811576 7 7 7 7 7 8.20405 811576 7 7 7 7 7 8.20405 811576 7 7 8.20405 811576 7 7 8.20405 811576 7 7 8.20405 811576 7 7 8.20405 811576 7 7 8.20405 811576 7 8.20405 8115						Surface	1.0	0.1	319	27.8	27.8	7.5	7.5	9.1	9.1	72.2	72.2	5.4	7.9		6		-				-	
SH8 Cloudy Moderate 15:32 5.1 Middle	000			45.00							27.0		7.5	_	3.1		16.6			-		_			000.405	011576	-	
	SH8	Cloudy	Moderate	15:32	5.1	Middle	-			1	=		-		-	- 74.0	-	-	-	8.1	-	7		-	820405	811576		-
A Denth-Averaged						Bottom					27.8		7.5		10.5		74.3			1			-				-	-

Water Qual	ity Monito	oring Resu	lts on		20 June 17 dι	ıring Mid-E	Ebb tide																	
Monitoring	Weather	Sea	Sampling	Water	Sampling Depth (n	-)	Current Speed	Current	Water Te	mperature (°C)	pН	Sali	nity (ppt)		turation %)	Dissolve Oxyger			ended Solid (mg/L)	ds Total Alkalinit (ppm)	Coordinate HK Grid	Coordinate HK Grid	Chromiun (µg/L)	n Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (n	n)	(m/s)	Direction	Value	Average	Value Aver	age Value	Average	Value	Average	Value [OA Value	DA Valu	ie DA	Value DA		(Easting)	Value D	A Value DA
					Surface	1.0	0.8	184 190	27.9 27.9	27.9	7.8 7.8	10.9	10.9	62.9 62.4	62.7	4.6	8.2	6		68 68			<0.2	1.9 2.2
C1	Rainy	Moderate	09:20	8.3	Middle	4.2	0.8	214 230	27.0 27.0	27.0	7.8 7.	25.2		42.6 42.6	42.6	2.9	10.2	10.5		75 75	815609	804264	<0.2	2.4
					Bottom	7.3	0.6	217	26.6 26.6	26.6	7.8 7.	20.5		49.3	49.3	2.4	13.2	5		77 78			<0.2	3.0
					Surface	1.0	1.3	177	27.9	27.9	7.3	8.1	0.1	60.0	60.0	4.5	9.6	9		65			<0.2	3.2
C2	Rainy	Moderate	11:41	10.3	Middle	1.0 5.2	1.4 0.8	188 172	27.9 27.6	27.6	7.5	17.8	17.8	60.0 53.7	53.7	3.8	9.6 9.2	11.5	۵.	66 74 72	825690	806930	<0.2	3.3 3.2 3.0 2.8
	. ,				Bottom	5.2 9.3	0.8	173 167	27.6 26.8	26.8	7.6	24.3	24.3	53.7 47.5	47.5	3.8	9.2	11.5 8		75			<0.2	2.2
					Surface	9.3 1.0	0.2	168 114	26.8 27.1	27.1	7.6 7.6 7.	17.6	17.6	47.5 65.6	65.6	4.7	4.7	10		76 75			<0.2	1.8
C3	Deino	Madaata	00.00	10.0		1.0 6.6	0.9	122 106	27.1 26.8		7.6	21.0		65.6 59.9		4.7	4.7	4.1		74 77 76	822089	047000	<0.2	2.0
C3	Rainy	Moderate	09:02	13.2	Middle	6.6 12.2	0.5	111 108	26.8 25.4	26.8	7.6	21.2	21.2	59.8 49.4	59.9	4.3	3.9	4.1		76	822089	817806	<0.2 <0.2 <0.2	2.2
					Bottom	12.2	0.4	116 179	25.4	25.4	7.6	29.9	29.9	49.4	49.4	3.4	3.6	9 7		78 78 70			<0.2	1.8 2.0 2.6
					Surface	1.0	0.8	191 166	27.8 26.9	27.8	7.7	13.0	13.0	62.7	62.7	4.6	8.7 9.4	11		69			<0.2	2.6
IM1	Rainy	Moderate	09:46	7.1	Middle	3.6	0.4	181	26.9	26.9	7.8	26.0	25.9	38.2	38.2	2.6	9.4	10.1	. 13	75	818339	806475	<0.2	0.6
					Bottom	6.1 6.1	0.3	164 176	26.5 26.5	26.5	7.8 7.	29.5	29.5	50.7 50.7	50.7	3.5	3.5 12.2	14 16		78 77			<0.2 <0.2	2.1
					Surface	1.0 1.0	0.7 0.7	190 195	27.8 27.8	27.8	7.8 7.	12.5	12.5	60.4	60.3	4.4	9.7 9.7	6 8		68 67			<0.2 <0.2	2.6
IM2	Rainy	Moderate	09:57	8.0	Middle	4.0 4.0	0.6	193 200	27.2 27.2	27.2	7.8 7.	23.6	23.6	42.6 42.6	42.6	3.0	10.4	11.1	8	75 75	818863	806180	<0.2 <0.2	2.4
					Bottom	7.0 7.0	0.3	174 179	26.8 26.8	26.8	7.8 7.8	27.3		50.2 50.2	50.2	3.5 3.5	13.2	9		77 77			<0.2	2.5
					Surface	1.0	0.7 0.7	218 224	28.0 28.0	28.0	7.7 7.7	7 12.5 12.5		51.1 50.4	50.8	3.7	8.3	7 8		68 68			<0.2 <0.2	2.5
IM3	Rainy	Moderate	10:06	8.2	Middle	4.1 4.1	0.6	222 227	27.4 27.4	27.4	7.8 7.8	21.3		37.7 37.6	37.7	2.7	11.6	11.2 6		73 72	819415	805999	<0.2	2.3 2.4
					Bottom	7.2 7.2	0.4	192 206	26.7 26.7	26.7	7.8 7.8	28.1		45.8 45.8	45.8	3.1	13.8 13.8	6 7		77 77			<0.2	2.2
					Surface	1.0 1.0	0.7	178 187	28.0 28.0	28.0	7.8 7.	10.0	12.2	66.6 66.4	66.5	4.9	7.7	6 5		70 70			<0.2 <0.2	2.4
IM4	Rainy	Moderate	10:15	7.5	Middle	3.8	0.4	203	27.7	27.7	8.0	16.0	17.0	54.4 54.3	54.4	3.9	9.7	9.7 6	7	72 73	819550	805050	<0.2	2.4
					Bottom	6.5	0.1	163 176	26.9	26.9	7.9	27 E	27.5	53.5 54.1	53.8	2.7	3.7	11		76 75			<0.2	2.8
					Surface	1.0	0.8	195	28.0	28.0	7.7 7.7	12.4	12.4	63.5	63.4	4.6	8.8	9		68			<0.2	2.5
IM5	Rainy	Moderate	10:24	6.8	Middle	1.0 3.4	0.9	200	28.0	27.9	7.7	12.4 7 18.9	18.9	63.3 51.7	51.7	3.7	9.8	10.2	0	68 74 72	820560	804934	<0.2	2.3
	·				Bottom	3.4 5.8	0.8	201 184	27.9 27.1	27.1	7.7	18.9	25.1	51.7 43.7	43.7	3.7 3.0	9.8	9		73 75			<0.2	2.8
					Surface	5.8 1.0	0.5 0.6	200 184	27.1 28.1	28.1	7.7	7 11.7	11 7	43.7 63.1	63.1	4.6	9.2	9 5		75 68			<0.2	2.8
IM6	Rainy	Moderate	10:36	6.5	Middle	1.0 3.3	0.6 0.4	198 210	28.1 28.0	28.0	7.7	11.7	13.0	63.1 53.8	53.6	3.9	9.2	11.2	6	69 71 72	821077	805810	<0.2	2.8
		Modorato	10.00	0.0	Bottom	3.3 5.5	0.4	227 262	28.0 27.2	27.2	7.7	7 26.5	26.2	53.4 41.1	41.3	3.9 2.8	11.0	6		72	021077	000010	<0.2	2.9
						5.5 1.0	0.4	271 209	27.2 28.1		7./	26.0		41.4 57.2	57.0	2.8 ²	13.4	8		75 68			<0.2	2.9
11.47	Deino	Madaa	10:44	7.4	Surface	1.0 3.7	0.3	218 243	28.1 27.5	28.1	7.6	11.9	11.9	56.8 43.3		12	9.7	6		70	004000	000000	<0.2	2.9
IM7	Rainy	Moderate	10:44	7.4	Middle	3.7 6.4	0.5	262 271	27.5 27.1	27.5	7.7	21.9	21.9	43.3 54.1	43.3	3.0	10.2	10.9		73 72 77	821333	806820	<0.2 <0.2 <0.2	2.6
					Bottom	6.4	0.1	274	27.1	27.1	7.7	27.5	27.5	54.9	54.5	3.7	3.7 12.7 12.7 7.5	7		76 70	1		<0.2	2.6
					Surface	1.0	0.8	193	27.8 27.2	27.8	7.5	12.6	12.0	65.6	65.6	4.8	7.5	12		69			<0.2	2.7
IM8	Rainy	Moderate	11:01	7.6	Middle	3.8	0.5	194 198	27.2	27.2	7.6 7.	21.5	21.5	47.6 47.6	47.6	3.4	8.9	8.9	17	75	821681	807819	<0.2	3.1 2.8
DA: Depth-Aver					Bottom	6.6 6.6	0.4	257 282	27.2 27.2	27.2	7.6 7.	22.6		47.6 47.6	47.6	3.3	10.2	19 18		76 77			<0.2	2.7

Water Qua Water Qua			lts on		20 June 17	during Mid-	Ebb tide																				
Monitoring	Weather	Sea	Sampling	Water		-	Current Speed	Current	Water Te	mperature (°C)	pH		Salini	ty (ppt)		aturation	Disso		Turbidity((NTU)	Suspended So (mg/L)		l Alkalinity (ppm)	Coordinate	Coordinate	Chromiun (µg/L)	m Nickel (μg.
Station	Condition	Condition	Time	Depth (m)	Sampling De	epth (m)	(m/s)	Direction	Value	Average	Value A	verage \	Value	Average		,			Value	DA		DA Valu		HK Grid (Northing)	HK Grid (Easting)	Value D	A Value D
					Surface	1.0	0.8	158	27.8	27.8	7.5		10.4	10.4	72.6	72.6	5.4		6.7		10	67				<0.2	3.0
IM9	Rainy	Moderate	10:46	6.9	Middle	1.0 3.5	0.8	169 145	27.8 27.5	27.5	7.5 7.6		10.4 18.5	18.5	72.6 54.5	54.5	5.4 3.9	4.7	6.7 5.3	6.3	9 8	68 75	72	822110	808826	<0.2	3.2
IIVIS	riality	Woderate	10.40	0.9	ivildate	3.5 5.9	0.5	145 134	27.5 27.0		7.6		18.5 22.9		54.5 54.5		3.9		5.3 7.0	0.3	9	75 76)	022110	000020	<0.2	3.2
					Bottom	5.9	0.2	143	27.0	27.0	7.6	7.6	22.9	22.9	54.5	54.5	3.8	3.8	7.0		9	76	ì			<0.2	3.0
					Surface	1.0	1.0	133 133	27.7 27.7	27.7	7.5 7.5		10.8	10.8	72.1 72.1	72.1	5.3		6.8	. -	8	67				<0.2	2.9
IM10	Rainy	Moderate	10:35	7.4	Middle	3.7	0.7	128 137	27.7 27.7	27.7	7.5	7.5	17.1 17.1	17.1	75.6 75.6	75.6	5.4 5.4	5.4	6.2 6.2	9.9	6	7 76	72	822236	809844	-0.0	0.2 3.0 2
					Bottom	6.4	0.5	98	26.9	26.9	7.6	7.6	24.4	24.4	44.7	44.7	3.1	3.1	16.7	:	9	77	,			<0.2	2.0
						1.0	0.5	107 85	26.9 27.7		7.6	-	24.4 13.5		44.7 66.3		3.1 4.8	9.1	16.7 6.1		7 5	76 69				<0.2 <0.2	2.2
					Surface	1.0	0.5	91 107	27.7	27.7	7.5	7.5	13.5	13.5	66.3	66.3	4.8	4.2	6.1 9.6		6	68	3			<0.2	2.4
IM11	Rainy	Moderate	10:18	8.2	Middle	4.1	0.4	107	27.3 27.3	27.3	7.7	7.7	20.6	20.7	49.0 49.0	49.0	3.5		9.6	9.5	6	5 76	, 4	821515	810554	<0.2	0.2 2.3 2
					Bottom	7.2 7.2	0.4	85 87	27.3 27.3	27.3	7.7		21.5	21.5	49.8 49.8	49.8	3.5	3.5	12.8 12.8	. -	5 6	76 77				<0.2	2.6
					Surface	1.0	0.5	117	27.7	27.7	7.7	7.7	12.7	12.7	63.1	63.1	4.6		9.6		4	67	,			<0.2	2.5
IM12	Rainy	Moderate	10:05	8.7	Middle	1.0 4.4	0.5 0.5	117 101	27.7 27.6	27.6	7.7 7.6	7.6	12.7 17.6	17.6	63.1 53.7	53.7	4.6 3.8	4.2	9.6 7.2	9.8	5 3	68	70	821165	811522	<0.2	2.3
IIVITZ	riality	Woderate	10.03	0.7		4.4 7.7	0.5	101 80	27.6 26.9		7.6		17.6 23.9		53.7 47.3		3.8		7.2 12.7	3.0	3	73 76	5	021103	011322	<0.2	2.5
					Bottom	7.7	0.5	82	26.9	26.9	7.7	1.1	23.9	23.9	47.3	47.3	3.3	3.3	12.7		4	75	j			<0.2	2.5
					Surface	1.0	0.1	102 108	27.8 27.8	27.8	7.5 7.5		11.4	11.4	70.3 70.2	70.3	5.2 5.2	5.2	7.0 7.0	. -	5 6	68				<0.2	2.5
SR2	Rainy	Moderate	09:39	4.5	Middle	-	-	-	-	-	-	-	-	-	-	-	-	5.2	-	6.5	- (6	70	821451	814171	- <0	0.2 - 2
					Bottom	3.5	0.6	70	27.7	27.7	7.6	7.6	15.4	15.7	65.6	65.7	4.7	4.7	5.9		5	71				<0.2	2.7
					Surface	3.5 1.0	1.0	74 179	27.7	27.7	7.6	7.5	15.9 14.5	14.5	65.8	60.8	4.7		5.9 6.9		6	71	_			<0.2	2.8
					Surface	1.0 4.1	1.1 0.5	180 179	27.7 27.1		7.5		14.5 22.0		60.8 46.9		4.4 3.3	3.9	6.9 7.6		5	-				-	-
SR3	Rainy	Moderate	11:09	8.2	Middle	4.1	0.5	179	27.1	27.1	7.6	7.6	22.0	22.0	46.9	46.9	3.3		7.6	8.7	6	6		822155	807587	-	-
					Bottom	7.2 7.2	0.2	253 256	27.0 27.0	27.0	7.6		24.1	24.1	42.0 42.0	42.0	2.9	2.9	11.6 11.6	. -	8	-				-	-
					Surface	1.0	0.1	123 133	27.6 27.6	27.6	7.8		15.5 15.5	15.5	55.0 54.5	54.8	4.0 3.9		8.8 8.8		8	-				-	-
SR4A	Rainy	Moderate	08:58	8.4	Middle	4.2	0.1	281	26.7	26.7	7.8	7.0	27.9	27.9	36.7	36.7	2.5	3.2	10.8	12.0	9	9 -		817170	807806	-	-
O		modorato	00.00	0.1		4.2 7.4	0.1	291 263	26.7 26.6		7.8		27.9 28.6		36.7 37.6		2.5		10.8 16.4		11 9	<u> </u>		0.7.77	007000	-	
					Bottom	7.4	0.1	279	26.7	26.7	7.8	7.8	28.6	28.6	37.7	37.7	2.6	2.6	16.4		10	-				-	-
					Surface	1.0	0.0	84 89	27.7 27.7	27.7	7.7		12.8 12.8	12.8	72.6 72.4	72.5	5.3 5.3	5.3	8.4 8.5	.	5	-				-	-
SR5A	Rainy	Moderate	08:40	5.3	Middle	-	-	-	-	-	-	-	-	-		-		5.5	-	9.4	- :	7 -	-	816591	810715		
					Bottom	4.3	0.1	343	27.4	27.4	7.6		22.6	22.6	59.9	59.9	4.2	4.2	10.4		8	-				-	-
					Surface	4.3 1.0	0.1	349 75	27.4	28.1	7.6		22.6 13.5	13.5	59.9 72.4	72.3	4.2 5.3		10.4 9.5		8	-				-	-
						1.0	0.2	79 -	28.1	28.1	7.7	7.7	13.5	13.5	72.2	72.3	5.2	5.3	9.6		8	-				-	-
SR6	Rainy	Moderate	08:15	5.0	Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	10.8	-	-		817897	814660	-	
					Bottom	4.0	0.0	3	27.3 27.3	27.3	7.6		21.5	21.5	70.7 70.7	70.7	5.0	5.0	12.1 12.1	.	17 15	-				-	-
					Surface	1.0	0.4	90 98	27.3 27.3	27.3	7.6 7.5		16.5 16.4	16.5	70.6 70.6	70.6	5.1 5.1		4.2 4.2		11	-				-	-
SR7	Rainy	Moderate	08:14	17.6	Middle	8.8	1.3	290	26.9	26.9	7.6	7.6	19.3	19.3	64.8	64.8	4.6	4.9	3.9	4.3	9 1	10		823634	823760	-	
0	,	····odorato	33			8.8 16.6	1.3	302 284	26.9 24.7		7.6		19.3 31.1		64.8 45.6		4.6 3.2	0	3.9 4.9		10	-		020004	020,00	-	-
					Bottom	16.6	1.1	298	24.7	24.7	7.6	7.6	31.1	31.1	45.6	45.6	3.2	3.2	4.9		12	-					
					Surface	1.0	0.6	110 119	27.8	27.8	7.6		11.4 11.4	11.4	65.4 65.4	65.4	4.8	4.8	6.9 6.9	:	6 5	-				-	-
SR8	Rainy	Moderate	09:57	5.6	Middle	-	-	-	-	-	-	- T	-	-	-	-	-	4.0	-	8.7	- (6 -		820399	811591		
					Bottom	4.6	0.3	135	27.5	27.5	7.6		17.8	17.8	71.8	71.8	5.1	5.1	10.4	:	6					-	-
DA: Depth-Ave	<u> </u>					4.6	0.3	139	27.5		7.6		17.8	-	71.8		5.1		10.4		6	-					

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 22 June 17 during

Water Qual Water Qual			lts on		22 June 17	during Mid-l	Flood Tic	de																	
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Temp	perature (°C)	pН		Salinit	y (ppt)	DO Satur (%)		Dissolved Oxygen	Turbidity	(NTU)	Suspended Solid (mg/L)	s Total Alkalinity (ppm)	Coordinate	Coordinate	Chromium (µg/L)	n Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Dep	ith (m)	(m/s)	Direction	Value	Average	Value A	verage V	'alue	Average			/alue D/	A Value	DA	Value DA	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value DA
					Surface	1.0	0.9 1.0	209 212	27.9 27.9	27.9	7.5 7.5		14.9		67.7 67.6		4.9	12.1	1	12 13	68 68			<0.2	1.8
C1	Cloudy	Moderate	17:48	8.5	Middle	4.3	0.8	214	28.0	28.0	7.5	7.5	14.9	14.9	66.0	65 Q	4.8	16.9	16.8	14 14	73 73	815608	804230	<0.2	2 1.8 1.8
					Bottom	4.3 7.5	0.8	229 210	28.0 26.9	26.9	7.5 7.6	76 2	14.9 23.4	22.4	65.8 59.7	50.7	4.8	17.1		16 15	74 76			<0.2	1.8
						7.5 1.0	0.6 1.6	215 177	26.9 28.3		7.6	2	9.4		59.7		4.4	21.2		14	77 63			<0.2	1.9 3.9
					Surface	1.0 4.5	1.7	184 172	28.3 27.9	28.3	7.4	7.4	9.4	9.4	59.9	59.9	4.4 3.5	0.2	1	11 10 10	64			<0.2	3.7
C2	Cloudy	Moderate	16:31	9.0	Middle	4.5	1.3	176	27.9	27.9	7.4	7.4	12.5	12.5	47.0	47.1	3.4	11.4	14.1	12	70	825679	806931	<0.2	3.7
					Bottom	8.0 8.0	0.5 0.5	172 178	27.1 27.1	27.1	7.5	7.5	18.2	18.2	42.1 42.1	42.1	3.0	21.6		12 14	73 75			<0.2 <0.2	3.1 2.8
					Surface	1.0	0.5 0.5	295 313	28.5 28.5	28.5	7.7		13.4		70.7 70.7		5.1	9.3	-	6 4	67 70			<0.2	2.7
C3	Cloudy	Moderate	18:21	13.2	Middle	6.6 6.6	0.4	267 268	27.9 27.9	27.9	77	77 1	15.5 15.5	15.5	00.4	62.4	4.5 4.5	8.3 8.3	9.4	7 7	74 74 73	822117	817800	<0.2	2.6
					Bottom	12.2	0.2	297	26.7	26.7	7.7	77 2	21.6	04.0	51.7	-4 -7	3.7	10.6		8	75			<0.2	2.5
					Surface	12.2	1.0	300 181	26.7 28.0	28.0	7.7	- 2	21.6		07.5		3.7 4.9	10.6		7 16	76 65			<0.2	2.6
						1.0 3.6	1.1 0.9	182 181	28.0 27.7		7.5	1	14.2		67.4		4.9 4.6	8 11.3		17	66 69			<0.2	2.0
IM1	Cloudy	Moderate	17:27	7.1	Middle	3.6	1.0	190	27.7 27.3	27.7	7.6	7.6	14.7	14.7	63.2	03.2	4.6	16.5	15.7	17 17	70 72	818370	806455	<0.2 <0.2	.2 2.1 2.1
					Bottom	6.1	0.6	205	27.3	27.3	7.6	7.6	20.7	20.7	61.5	51.5	4.4	19.2		17	71			<0.2	2.0
					Surface	1.0	1.2	215 234	28.0 28.0	28.0	7.5		13.4		65.6 65.6		4.8	10.6		10	70 70			<0.2	2.1
IM2	Cloudy	Moderate	17:19	8.1	Middle	4.1	1.2	218 235	27.9 27.9	27.9	7.5		14.3		66.0 66.0		4.8	15.7 15.4	15.0	9 11	72 73	818843	806202	<0.2	.2 2.0 2.0
					Bottom	7.1 7.1	0.9	213 218	27.9 27.9	27.9	7.5	7.5 1	14.3	1/13	66.0	66.3	4.8 4.8	40.0	1	13	73 74			<0.2	1.8
					Surface	1.0	1.1	211	28.0	28.0	7.5	7.5 1	13.8	12.0	67.1	67.1	4.9	11.9		8	67			<0.2	1.8
IM3	Cloudy	Moderate	17:14	7.4	Middle	1.0 3.7	1.2	217 210	28.0 27.9	27.9	7.5	75 1	13.8	14.1	65.8	0.5.0	4.9	17.5	16.6	9 8 11	67 71 71	819418	806023	<0.2	.2 1.8
IIVIO	Cloudy	Wiodciato	17.14	7.4		3.7 6.4	1.1 0.8	210 215	27.9 27.9		7.5	1	14.1		65.8		4.8	17.6	10.0	10	71 75	013410	000020	<0.2	2.2
					Bottom	6.4 1.0	0.9	220 207	27.9 28.0	27.9	7.5	7.5	14.5	14.5	66.2	00.2	4.8 4.8	20.3	1	16 8	75 67			<0.2	2.2
					Surface	1.0	1.2	211	28.0	28.0	7.5	7.5	13.9	13.9	66.5	00.5	4.8	10.8		8	68			<0.2	2.4
IM4	Cloudy	Moderate	17:06	7.6	Middle	3.8	1.1	199 217	27.9 27.9	27.9	7.5	7.5	14.2	14.2	65.3	55.3	4.7	16.1 16.2	15.5	8 10	75 75	819556	805040	<0.2	2.4
					Bottom	6.6	1.0	189 201	27.8 27.8	27.8	7.5		14.5		65.6 65.6		4.8	19.5	1	17 17	78 77			<0.2	2.2
					Surface	1.0	0.9	228 233	28.0 28.0	28.0	7.5	7.5 1	13.7	12.7	07.0	67.2	4.9	11.5		20 20	67 67			<0.2	2.3
IM5	Cloudy	Moderate	16:58	6.9	Middle	3.5	1.0	238	27.9	27.9	7.5	7.5	14.1	14.1	66.1	66.1	4.8	14.3	15.2	11 12	71 71	820575	804909	<0.2	2.6
					Bottom	3.5 5.9	1.1 0.9	254 248	27.9 27.9	27.9	7.5	75 1	14.1 14.5	14.5	66.1 65.9	66.0	4.8	14.5 19.8	1	10	71 75			<0.2	2.3
					Surface	5.9 1.0	0.9	269 228	27.9 28.1		7.5	1	14.5		66.0	CE 4	4.8	20.1		9	75 68			<0.2 <0.2	2.1
						1.0	0.6 0.7	233 227	28.0 27.5	28.1	7.5	7.5	14.3 17.6	14.3	64.4	00.4	4.7	10.2	1	8 10 12	67			<0.2	1.9
IM6	Cloudy	Moderate	16:50	6.5	Middle	3.3	0.8	227	27.5	27.5	7.5	7.5	17.6	17.0	62.1	02.1	4.4	12.5	13.0	10	69	821056	805841	<0.2	2.1
					Bottom	5.5 5.5	0.5 0.5	235 241	27.3 27.3	27.3	7.4	7.4	18.5	18.5	60.6	60.6	4.3	16.2		20 19	75 75			<0.2 <0.2	2.0
					Surface	1.0	1.1	213 226	27.9 28.0	28.0	7.3		13.6		59.9 60.0		4.4	10.9	1	10	67 67			<0.2	3.2
IM7	Cloudy	Moderate	16:30	7.8	Middle	3.9	1.0	223 233	27.2 27.2	27.2	7.4	7.4	16.9	16.0		E2 0	3.8 3.8	1 15.3 15.4	15.0	8 9	74 74 73	821366	806847	<0.2	2.2
					Bottom	6.8	0.8	230	27.5	27.5	7.3	7.0	15.6	15.6	65.0	ce o	4.7	7 18.6	1	9	77			<0.2	3.2
					Surface	6.8 1.0	1.0	236 195	27.5 28.0	28.0	7.5	75 1	15.6	12.1	57.3	573	4.7	18.7		10	65		 	<0.2 <0.2	3.3
11.00	Ol- '	Mad	40.50	7.0		1.0 3.9	1.1 0.7	196 221	28.0 27.7		7.5	1	12.1		57.3		4.2 3.8	0 14.4 17.4	47.0	11 15	66 72	004075	007005	<0.2	2.9
IM8	Cloudy	Moderate	16:52	7.8	Middle	3.9 6.8	0.7	237 252	27.7 27.5	27.7	7.5	7.5	13.9	13.9	51.9	52.0	3.8	17.4	17.8	13 13	71 71 75	821675	807825	<0.2 <0.2	.2 2.9 3.0
DA: Donth Ave					Bottom	6.8	0.5	271	27.5	27.5	7.5		15.4		56.0		4.1 4.1	1 21.5	<u> </u>	12	74			<0.2	3.1

DA: Depth-Averaged

Water Quality Monitoring Results on 22 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 27.8 1.0 0.6 170 139 50.9 19.8 67 -02 Surface 27.8 7.5 13.9 50.9 7.5 1.0 0.7 176 27.8 13 9 50.9 3.7 19.8 10 66 -02 32 3.4 0.3 185 27.6 7.5 14.8 49.9 3.6 17.2 13 69 < 0.2 2.5 IM9 17:05 6.8 Middle 7.5 14.8 49.9 18.6 13 70 822082 808821 2.7 Cloudy Moderate 3.4 0.3 195 27.6 7.5 14.7 49.9 3.6 17.1 13 68 <0.2 2.6 5.8 0.2 185 27.5 7.5 15.4 50.5 18.8 15 74 <0.2 2.4 7.5 15.4 50.5 3.7 Rottom 27.5 7.5 50.5 3.7 18.8 73 <0.2 2.4 1.0 144 7.5 13 0.8 28.5 9.1 65.3 4.8 16.9 64 <0.2 3.4 Surface 28.5 7.5 9.1 65.3 7.5 9.1 65.3 4.8 3.2 1.0 0.9 152 28.5 16.9 14 66 <0.2 4.8 67 67 3.6 0.5 28.3 7.5 10.6 64.2 4.7 19.1 16 <0.2 3.3 IM10 Cloudy Moderate 17:17 7.2 Middle 28.3 7.5 10.6 64.2 19.4 67 822254 809849 3.2 7.5 3.6 0.6 144 28.3 10.6 64.2 4.7 19.1 15 < 0.2 3.4 6.2 0.4 105 28.1 7.5 4.4 22.3 19 70 <0.2 2.9 7.5 11.7 60.1 Bottom 28.1 6.2 0.4 109 28.1 7.5 11.7 4.4 22.3 17 70 2.8 69 0.5 28.2 4.4 13.9 10 3.4 7.5 < 0.2 Surface 28.2 7.5 11.7 60.7 1.0 0.6 145 7.5 60.7 4.4 13.9 70 3.4 28.2 9 < 0.2 72 73 4.0 2.9 3.0 4.2 0.3 103 27.7 7.6 14.4 54.4 14.9 11 < 0.2 17:27 14.4 54.4 821514 810526 IM11 Cloudy Moderate 8.4 Middle 27.7 7.6 14.8 3.1 4.2 0.3 108 27.7 7.6 14.4 54.4 4.0 14.9 11 < 0.2 7.5 7.5 74 0.2 74 27.7 149 55.1 4.0 15.5 12 73 <0.2 2.8 Bottom 7.5 14.9 55.1 4.0 55.1 74 74 0.2 78 27.7 149 4.0 15.5 11 < 0.2 3.1 1.0 0.4 110 28.7 7.6 11.6 65 <0.2 3.4 9.2 9.2 70.6 70.6 5.2 8 Surface 28.7 7.6 70.6 7.6 9.2 5.2 3.2 1.0 0.4 118 28.7 11.6 66 <0.2 4.7 3.1 4.5 0.3 60 28.3 7.6 11.6 63.7 11.7 8 69 < 0.2 11.6 63.6 821175 IM12 Cloudy Moderate 17:34 9.0 Middle 28.3 7.6 12 0 69 811519 3.2 7.6 63.4 4.6 11.7 70 <0.2 4.5 0.3 65 28.3 8 8.0 0.2 349 27.9 7.6 61.3 4.5 12.7 72 <0.2 3.2 Bottom 13.7 61.3 4.5 8.0 0.2 321 27 9 7.6 61.3 45 12.7 8 71 <0.2 3.2 1.0 0.2 63 29.2 64 3.4 7.6 9.1 <0.2 Surface 29.2 7.6 8.7 77.4 1.0 7.6 5.7 3 65 3.3 0.2 66 29.2 9.1 <0.2 5.7 17:56 4.8 821479 814184 SR2 Cloudy Moderate Middle 3.3 67 32 3.8 0.2 68 28.7 11.0 73.1 5.3 9.9 <0.2 Bottom 28.7 7.5 11.0 73.1 5.3 3.8 7.5 11.0 73.1 5.3 0.2 72 4 68 28.7 99 -02 3.1 1.0 1.1 186 28.2 7.5 9.2 61.3 4.5 14.5 10 Surface 28.2 7.5 9.2 61.3 1.0 1.2 193 28.2 7.5 9.2 61.3 4.5 14.5 10 4.0 0.7 204 27.6 7.5 14.2 17.3 SR3 16:46 79 Middle 27.6 7.5 14.2 50.2 10 822166 807562 Moderate Cloudy 4.0 0.7 221 27.6 7.5 14.2 50.2 3.7 17.3 9 6.9 0.5 236 7.5 27.5 15.2 48.7 3.5 20.0 9 15.2 48.7 3.5 Bottom 27.5 7.5 7.5 48.7 3.5 15.2 6.9 0.5 27.5 20.0 10 245 1.0 1.0 267 28.0 7.5 18.6 69.9 69.9 4.9 8.6 Surface 28.0 7.5 18.6 69.9 7.5 13 1.0 1.0 289 28.0 18.6 4.9 8.4 4.5 1.0 267 27.6 4.5 10.5 13 SR4A 18:10 27.6 7.5 19.4 63.7 10.8 817193 807795 Cloudy Moderate 9.0 Middle 4.5 1.0 288 27.6 7.5 19.4 4.5 10.6 14 8.0 0.9 268 27.2 7.6 4.9 13.4 14 22.8 69.5 27.2 69.7 Bottom 7.6 22.8 4.9 8.0 0.9 278 27.2 7.6 4.9 13.4 15 22.8 69.9 63.9 1.0 0.7 290 27.7 7.5 7.5 18.7 4.5 8.5 14 Surface 27.7 7.5 18.7 63.9 1.0 0.7 63.9 4.5 8.7 13 298 27.7 18.7 SR5A Cloudy 18:28 4.6 Middle 13 816598 810694 Moderate 3.6 0.5 297 27.6 10.9 13 7.5 19.2 84.5 6.0 85.4 6.1 7.5 19.2 Bottom 27.6 7.5 86.2 3.6 0.6 314 27.6 19.2 10.8 13 1.0 0.2 228 28.0 16.5 5.1 7.6 14 7.5 16.5 71.5 Surface 28.0 7.5 16.5 71.5 5.1 7.7 1.0 0.2 231 28.0 15 SR6 18:52 4.2 Middle 14 817909 814659 Cloudy Moderate 0.2 250 28.0 9.6 14 4.9 28.0 7.5 16.7 68.0 4.9 Bottom 3.2 16.7 67.9 4.8 9.7 14 0.2 28.0 0.2 28.6 7.8 13.8 5.5 6.6 Surface 28.6 7.8 13.8 76.5 76.5 5.5 1.0 0.2 218 7.8 13.8 6.6 28.6 10.2 8.3 0.1 102 26.6 7.8 21.7 50.1 3.6 6 SR7 Cloudy Moderate 19:00 16.6 Middle 26.6 7.8 21.7 50.1 823636 823754 107 7.8 21.7 50.1 8.3 0.1 26.6 3.6 10.2 6 15.6 0.2 54 26.2 7.7 25.5 56.4 4.0 10.5 6 Bottom 26.2 7.7 25.5 56.4 4.0 15.6 0.2 55 26.2 25.5 56.4 4 0 10.5 1.0 0.2 89 28.9 7.6 8.9 5.6 7.6 75.8 Surface 28.9 8.9 75.8 1.0 0.2 92 28.9 7.6 8.9 5.6 10.1 6 5.6 SR8 Cloudy Moderate 17:44 5.2 Middle 10.0 820430 811596 7.6 7.6 5.6 5.6 4.2 0.1 49 28.9 10.1 9.8 28.9 7.6 10.1 76.7 4.2 0.1 49 28.9 6

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 22 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Speed Current Oxygen (ppm) (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 1.0 0.7 212 28.2 13.6 6.0 66 79.3 5.7 -n 2 2.0 Surface 28.2 1.0 0.7 212 28.2 7.7 13.6 79.3 5.7 6.0 66 <0.2 2.0 4.4 1.0 210 27.2 7.6 21.5 59.7 4.2 8.3 5 72 < 0.2 2.2 C1 10:58 27.3 7.6 21.5 59.7 11.2 815600 804252 2.1 Cloudy Rough 8.8 Middle 71 4.4 210 27.3 7.6 21.5 59.7 4.2 8.4 71 <0.2 1.9 5 7.8 75 <0.2 0.6 250 26.5 7.6 24.3 48.2 3.4 19.3 2.2 Botton 7.6 24.6 48.2 7.6 48.2 3.4 75 7.8 0.6 250 26.5 24.8 19.3 <0.2 21 1.0 178 28.7 63.7 8.8 10 62 <0.2 3.6 7.1 63.7 28.7 7.5 Surface 1.7 7.5 4.7 10 3.8 1.0 186 28.7 63.7 8.8 63 <0.2 5.4 1.3 172 27.7 7.5 44.9 3.3 14.2 9 66 <0.2 3.7 27 7 7.5 13.0 825668 806932 C2 Cloudy Moderate 13:16 10.7 Middle 44.9 68 3.7 7.5 5.4 1.3 3.3 66 172 27.7 14.2 8 44.9 9.7 0.5 174 26.9 7.6 20.1 44.0 3.1 24.7 10 75 <0.2 3.5 Bottom 7.6 20.1 44.0 9.7 0.5 180 26.9 7.6 20.1 44 0 3.1 24.7 9 74 <0.2 3.5 1.0 0.4 109 27.2 7.8 18.7 60.6 4.3 8.5 8 66 <0.2 2.7 Surface 27.2 7.8 18.7 60.6 1.0 0.5 7.8 18.7 60.6 4.3 8.5 67 <0.2 2.7 27.2 6.3 0.4 9.8 71 <0.2 2.5 19 26.9 7.8 19.5 4.1 C3 11:10 126 26.9 7.8 19.5 57.1 10.3 822107 817786 25 Middle Cloudy Moderate 72 2.4 6.3 26.9 7.8 19.5 4.1 9.8 <0.2 0.4 20 7.8 7.8 74 2.3 11.6 0.3 47 25.7 25.7 61.9 61.9 4.3 4.3 10 <0.2 26.2 12.6 Bottom 26.2 7.8 25.7 61.9 4.3 75 11.6 0.3 48 26.2 12.6 8 <0.2 24 1.0 0.9 196 27.8 7.6 18.9 4.5 13.1 4 65 <0.2 2.8 27.8 7.6 19.5 62.9 Surface 1.0 1.0 211 27.8 7.6 20.0 62.7 4.4 13.0 5 65 <0.2 2.8 4.0 3.6 0.7 26.2 3.6 14.3 20 70 < 0.2 1.4 11:22 7.6 27.5 52.3 818345 806471 IM1 Cloudy Rough 72 Middle 26.2 69 0.7 27.5 52.5 69 <0.2 3.6 199 26.2 7.6 3.6 14.5 21 0.9 6.2 0.3 268 7.6 4.2 16.8 19 72 <0.2 26.1 29.4 61.6 Botton 26.2 7.6 29.4 61.9 4.3 7.6 29.3 72 4.3 0.8 6.2 0.3 288 26.2 62.2 16.5 19 < 0.2 74.6 1.0 1.0 193 28.3 7.6 12.5 5.4 6.6 65 <0.2 2.2 Surface 7.6 12.5 74.5 7.6 74.4 5.4 66 1.0 1.0 210 28.3 6.6 6 <0.2 2.1 4.0 0.9 200 27.2 7.6 18.9 49.9 3.6 17.5 8 69 <0.2 2.2 18.9 IM2 11:31 8.0 Middle 27.2 7.6 49.9 16.3 69 818842 806182 2.2 Cloudy Rough 4.0 1.0 219 27.1 7.6 18.9 49.8 69 <0.2 2.3 7.0 0.2 165 26.3 7.6 28.0 3.0 24.6 17 73 <0.2 2.1 43.4 28.0 43.4 Bottom 26.3 7.6 43.4 3.0 7.0 7.6 27.9 3.0 24.6 73 <0.2 2.1 0.2 165 26.3 1.0 7.6 <0.2 2.3 0.9 203 28.5 13.0 71.2 5.1 7.8 66 13.0 Surface 28.5 7.6 71.0 13.0 7.9 65 1.0 0.9 218 28.5 7.6 5.1 3.7 1.0 214 27.5 7.5 16.5 55.0 4.0 13.9 6 65 <0.2 2.4 IM3 Rough 11:45 7.3 Middle 7.5 16.5 55.0 819416 806001 Cloudy 3.7 1.0 27.5 7.5 16.5 54.9 4.0 14.1 8 65 <0.2 2.5 0.5 77 <0.2 2.3 26.9 21.7 3.3 23.2 Bottom 26.9 7.6 21.7 47.2 3.3 47.2 3.3 77 2.4 6.3 0.5 212 26.9 7.6 23.4 9 <0.2 65 65 <0.2 2.7 1.0 0.8 181 28.4 7.6 12.5 12.5 5.6 5.5 76.7 7.1 7 Surface 28.4 7.6 12.5 76.6 1.0 7.6 76.4 7.3 0.9 182 28.4 3.8 0.6 188 27.9 7.6 15.3 64.6 47 19.5 70 < 0.2 2.7 IM4 11:54 7.5 Middle 15.3 64.5 819589 805055 Cloudy Moderate 3.8 0.6 201 27.9 7.6 15.3 64.4 4.6 19.5 69 <0.2 2.7 6.5 0.4 203 27.1 7.6 20.9 4.0 24.5 18 72 <0.2 2.2 Bottom 27.1 7.6 20.9 56.4 4.0 0.4 27.1 7.6 20.9 56.5 4.0 24.6 16 72 <0.2 2.3 1.0 0.9 198 28.4 65 2.5 12.1 <0.2 77.1 Surface 28.4 7.6 12.1 1.0 0.9 28.4 7.6 12.1 77.0 5.6 6.0 66 <0.2 2.5 8 69 69 <0.2 2.6 3.5 1.0 208 27.8 7.5 14.8 65.5 65.5 4.7 9.3 IM5 Moderate 12:03 6.9 Middle 27.8 7.5 14.8 65.5 13.2 820581 804940 2.6 Cloudy 7.5 14.8 4.7 3.5 1.0 219 27.8 94 2.5 5.9 0.7 215 27.0 7.5 21.1 64.6 4.6 24.5 9 73 <0.2 Bottom 27.1 7.5 21.1 64.9 5.9 0.7 221 27.1 7.5 21.1 65.2 46 24 1 9 72 <0.2 2.6 6.3 7.6 12.1 79.4 Surface 28.6 1.0 0.4 206 28.6 7.6 12.1 79.3 5.7 6.3 66 <0.2 2.8 5 5.2 2.6 3.2 0.7 220 27.5 7.3 15.6 65.0 4.7 10.9 6 70 <0.2 7.3 15.6 65.0 821069 805833 IM6 Cloudy Moderate 12:15 6.4 Middle 27.5 10 69 2.4 7.3 4.7 3.2 0.8 221 27.5 15.6 65.0 6 69 < 0.2 10.8 5.4 0.6 227 27.0 7.5 20.7 53.4 3.8 14.5 19 72 <0.2 1.8 20.8 53.5 Bottom 27.0 7.5 53.5 3.8 5.4 0.6 236 27.0 7.5 20.8 3.8 14.6 17 72 <0.2 19 1.0 0.7 224 28.1 7.5 13.4 66.9 4.9 7.5 65 <0.2 2.4 Surface 28.1 7.5 13.5 66.9 0.7 243 28.1 7.5 66.8 4.9 7.6 66 <0.2 2.6 3.8 0.7 234 27.0 7.5 19.3 16.7 19 74 <0.2 2.4 65.3 IM7 12:25 7.5 19.3 67.4 16.1 72 821354 806847 2.3 Cloudy Rough 7.6 Middle 27.0 15 3.8 7.5 19.3 69.4 5.0 16.2 74 <0.2 2.3 0.7 235 27.0 21 6.6 0.5 243 7.5 20 77 <0.2 2.2 26.7 21.0 56.2 4.0 24.1 Botton 26.7 7.5 21.0 56.4 4.0 77 7.5 21.0 56.5 4.0 24.2 < 0.2 6.6 0.5 246 26.7 19 2.0 1.0 1.0 191 28.5 8.6 65 <0.2 2.5 Surface 28.5 7.7 11.0 73.0 1.0 28.5 7.7 73.0 5.3 8.6 66 <0.2 2.3 207 13.9 27.3 52.6 3.8 8 73 <0.2 2.3 821686 807856 IM8 Cloudy Moderate 12:45 7.7 Middle 27.3 7.6 17.3 52.6 72 2.3 73 2.3 3.9 0.8 208 27.3 7.6 52.6 3.8 13.9 8 < 0.2 77 2.3 6.7 0.5 235 27.1 7.6 7.6 19.4 50.7 3.6 22.9 11 < 0.2 27.1 7.6 Rottom 19.4 50.7 3.6 6.7 50.7 76 9 0.5 238 27.1 19.4 22.9 < 0.2

DA: Depth-Averaged

Water Qual Water Qual			lts on		22 June 17	during Mid-l	Ebb tide																				
Monitorina	Weather	Sea	Sampling	Water			Current Speed	Current	Water Te	mperature (°C)	pl	Н	Salin	ity (ppt)		turation	Dissolved Oxygen	Turbidity	(NTU)	Suspende (mg/		Total Alka (ppm)	linity		Coordinate	Chromiui (µg/L)	Nickel (ua/l
Station	Condition	Condition	Time	Depth (m)	Sampling Depth	n (m)	(m/s)	Direction	Value	Average	Value /	Average	Value	Average	1	Average	- 11	Value	DA	Value	DA	- "	DA	HK Grid (Northing)	HK Grid (Easting)		DA Value DA
					Surface	1.0	0.9	162	28.5	28.5	7.7	7.7	10.7	10.7	75.3	75.3	5.5	8.5		5		65				<0.2	2.5
IM9	Cloudy	Moderate	12:36	6.8	Middle	1.0 3.4	0.9	163 161	28.5 27.1	27.1	7.7	7.7	10.7 19.0	19.0	75.3 49.1	49.1	5.5 3.5 4.5	8.5 18.8	16.6	5 19	10	66 69	69	822092	808806	<0.2	0.2 2.6 2.3
	Oloddy	Modorato	12.00	0.0		3.4 5.8	0.6	175 162	27.1 27.0		7.7		19.0 19.8		49.1 48.4		3.5	18.8 22.4	10.0	18 5		70 72		022002	000000	<0.2	1.9
					Bottom	5.8	0.3	162	27.0	27.0	7.7	7.7	19.8	19.8	48.4	48.4	3.5	22.4		7		73				<0.2	2.6
					Surface	1.0	1.0	137 138	28.5 28.5	28.5	7.7	7.7	11.0	11.0	75.1 75.1	75.1	5.5 5.5 4.5	8.4 8.4		5 5		66 67				<0.2	2.6
IM10	Cloudy	Moderate	12:29	7.8	Middle	3.9	0.7	126 133	27.1 27.1	27.1	7.7	7.7	19.0 19.0	19.0	49.1 49.1	49.1	3.5	17.2 17.1	16.3	5 7	6	74 75	72	822233	809819	<0.2	0.2 2.8 2.7
					Bottom	6.8 6.8	0.5 0.5	113 123	26.9 26.9	26.9	7.7	7.7	20.1	20.1	46.7 46.7	46.7	3.3 3.3	23.4 23.4		7 6	F	76 75				<0.2	2.6
					Surface	1.0	0.7	121	28.3	28.3	7.6 7.6	7.6	11.9	11.9	70.2	70.2	5.1	7.4		4	-	65				<0.2	3.4
IM11	Cloudy	Moderate	12:18	8.7	Middle	1.0 4.4	0.7	130 119	28.3 28.0	28.0	7.6	7.6	11.9 12.5	12.5	70.2 64.2	64.2	5.1 4.7	7.4 8.5	14.2	5 5	7	66 69	70	821500	810525	<0.2	3.3 2.9 2.9
	Oloddy	Wioderate	12.10	0.7		7.7	0.6	119 96	28.0 27.3		7.6		12.5 18.1		64.2 48.7		3.5	8.5 26.8	14.2	5 11	,	70 73	, ,	021300	010020	<0.2	3.0
					Bottom	7.7 1.0	0.5	99 106	27.3 28.4	27.3	7.7 7.6	7.7	18.1	18.1	48.7	48.7	3.5	26.8 7.8		11 7		75 66				<0.2	2.5
					Surface	1.0	0.8	108	28.4	28.4	7.6	7.6	12.3 12.3	12.3	68.9 68.9	68.9	5.0 4.6	7.8		5		67				<0.2	2.6
IM12	Cloudy	Moderate	12:07	9.2	Middle	4.6 4.6	0.7	98 101	27.8 27.8	27.8	7.6 7.6	7.6	14.3 14.3	14.3	57.0 57.0	57.0	4.1	10.6	12.1	6 5	6	68 70	70	821165	811503	<0.2	0.2 2.5 2.6
					Bottom	8.2 8.2	0.3	75 81	27.5 27.5	27.5	7.8 7.8	7.8	17.0 17.0	17.0	57.3 57.3	57.3	4.1 4.1	17.8 17.8		6 5		74 73				<0.2	2.6
					Surface	1.0	0.7	75	28.3	28.3	7.7	7.7	12.4	12.4	69.4	69.4	5.0	9.0		4		65				<0.2	2.4
SR2	Cloudy	Moderate	11:40	5.1	Middle	1.0	0.7	77 -	28.3	_	7.7	_	12.4	_	69.4		5.0	9.0	10.6	5	5	- 66	69	821448	814166	<0.2	0.2 - 2.5
01.2	Oloddy	Modorato	11.10	0.1		4.1	0.4	45	27.3		7.7		- 17.5	47.5	58.1	50.4	4.2	12.1	10.0	- 6	-	72		021110	011100	<0.2	2.6
					Bottom	4.1 1.0	0.4	46 176	27.3 27.8	27.3	7.7 7.6	7.7	17.5 15.2	17.5	58.1 59.2	58.1	4.2 4.2 4.3	12.1 8.4		4 7		73	_			<0.2	2.6
					Surface	1.0	1.2	189	27.8	27.8	7.6	7.6	15.2	15.2	59.2	59.2	4.3	8.4		5		-				-	-
SR3	Cloudy	Moderate	12:49	7.9	Middle	4.0	0.8	196 210	27.2 27.2	27.2	7.6	7.6	18.1 18.1	18.1	48.8 48.8	48.8	3.5	13.5 13.5	14.5	15 17	14	-	-	822143	807551	-	
					Bottom	6.9 6.9	0.5	217 221	27.1 27.1	27.1	7.6	7.6	18.7 18.7	18.7	48.0 48.0	48.0	3.4 3.4	21.5		18 20	-	-				-	-
					Surface	1.0 1.0	0.2	51 54	28.2 28.2	28.2	7.6 7.6	7.6	14.2 14.3	14.3	70.7 70.4	70.6	5.1	7.1 7.2		7 5	ŀ	-				-	-
SR4A	Cloudy	Moderate	10:32	9.2	Middle	4.6	0.2	39	26.3	26.3	7.6	7.6	28.4	28.4	59.7	59.7	4.1	17.2	15.0	17	14	-		817191	807795	-	-
	,				Bottom	4.6 8.2	0.2	40 52	26.3 26.1	26.1	7.6 7.6	7.6	28.4 29.4	29.4	59.7 55.5	55.6	4.1 3.6 3.6	17.3 20.4		16 18		-				-	-
						8.2 1.0	0.1	53 5	26.1 27.6		7.6 7.5		29.4 16.2		55.6 70.5		3.6 5.1	20.5 8.5		18 8		-	_			-	-
					Surface	1.0	0.1	5	27.6	27.6	7.5	7.5	16.2	16.2	70.3	70.4	5.1	8.6		9		-				-	-
SR5A	Cloudy	Moderate	10:13	5.5	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	11.1	-	9	-	-	816600	810706	-	
					Bottom	4.5 4.5	0.0	78 79	27.1 27.2	27.2	7.4	7.4	21.1	21.1	73.2 74.1	73.7	5.2 5.2	13.5 13.6		9	-	-				-	-
					Surface	1.0	0.2	81 81	27.6 27.6	27.6	7.5 7.5	7.5	14.6 14.6	14.6	71.3 71.1	71.2	5.2	7.5 7.6		6 5	ŀ	-				-	-
SR6	Cloudy	Moderate	09:46	4.6	Middle	-	-	-	-	-	-	-	-	-	-	-	5.2	-	14.7	-	6	-	-	817887	814682		-
	,				Bottom	3.6	0.1	76	27.3	27.4	7.4	7.4	17.1	17.1	51.9	51.9	3.7	22.0		- 6	ŀ	-				-	-
						3.6 1.0	0.1	76 40	27.4 27.2		7.4		17.1 17.4		51.9 73.9		3.7 5.3	21.7 8.1		6 4		-	_			-	-
					Surface	1.0	0.4	43	27.2	27.2	7.7	7.7	17.4	17.4	73.9	73.9	5.3	8.1		5	ļ	-				-	-
SR7	Cloudy	Moderate	10:15	16.8	Middle	8.4 8.4	0.3	-	27.2 27.2	27.2	7.7	7.7	17.4 17.4	17.4	61.4 61.2	61.3	4.4	6.4 6.4	6.9	5 5	5	-	-	823619	823750	-	
					Bottom	15.8 15.8	0.6	45 47	25.6 25.6	25.6	7.7	7.7	27.2 27.2	27.2	55.1 55.1	55.1	3.9 3.9	6.2		6 5	}	-				-	-
					Surface	1.0	0.3	292 315	28.1 28.1	28.1	7.7	7.7	14.5 14.5	14.5	67.7 67.7	67.7	4.9	12.0 12.0		9	ŀ	-					-
SR8	Cloudy	Moderate	11:55	5.5	Middle	-	-	2	-	-	-	-	-	-	-	-	4.9	-	12.6	-	9	-	_	820409	811574	-	
	,				Bottom	4.5	0.1	1	27.9	27.9	7.7	7.7	14.9	14.9	67.3	67.3	4.9 4.9	13.2		- 8	-	-				-	-
DA: Denth-Aver	<u> </u>				DOLLOTT	4.5	0.1	1	27.9	21.3	7.7	1.1	14.9	14.5	67.3	07.0	4.9	13.2		9		-					-

Water Quality Monitoring Results on 24 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.8 28.3 1.0 28 13.7 64.0 46 97 69 -02 25 Surface 28.3 13.7 64.0 13.7 1.0 0.8 29 28.3 63.9 46 96 8 69 -02 2.5 3.7 0.6 26 28.1 7.7 14.2 61.0 4.4 14.1 10 73 < 0.2 2.4 C1 19:53 7.3 Middle 7.7 14.2 61.0 13.3 73 815617 804246 2.5 Cloudy Moderate 0.6 28.1 14.2 60.9 4.4 13.9 73 <0.2 2.6 6.3 0.4 29 27.5 7.5 18.6 16.1 9 76 <0.2 2.5 7.5 18.7 59.9 4.3 Rottom 27.5 6.3 0.4 27.5 7.5 59.9 4.3 16.1 <0.2 2.4 1.0 1.9 7.4 12 61 13 28.7 5.3 58.6 4.4 9.6 <0.2 2.8 Surface 28.7 7.4 5.3 58.6 58.6 7.4 5.3 4.4 2.6 1.0 2.0 13 28.7 9.6 12 62 <0.2 4.0 1.5 69 67 5.1 11 28.0 7.4 12.3 48.5 3.6 14.3 12 <0.2 2.6 C2 Cloudy Moderate 18:41 10.2 Middle 28.0 7.4 12.3 48.5 147 12 67 825679 806959 2.6 48.5 12 5.1 1.6 28.0 7.4 3.6 14.3 < 0.2 2.5 9.2 0.7 11 27.7 7.5 14.1 50.5 3.7 20.2 13 72 < 0.2 2.6 27.7 7.5 14.1 50.5 3.7 Bottom 9.2 0.8 27.7 7.5 14.1 3.7 20.2 12 73 2.6 28.4 4.4 0.5 12.8 71 7.6 13.6 60.8 12 < 0.2 Surface 28.4 7.6 13.6 60.8 1.0 0.5 28.4 7.6 13.6 60.7 4.4 12.9 13 70 2.6 35 < 0.2 6.2 0.0 29 28.0 7.7 15.7 55.7 4.0 14.5 12 74 < 0.2 2.8 7.7 15.7 55.7 822106 817814 C3 Cloudy Moderate 20:29 12.3 Middle 28.0 14 0 12 2.7 7.7 73 6.2 0.0 31 28.0 15.7 55.7 4.0 14.5 13 < 0.2 2.6 11.3 0.2 21 27.4 77 20.1 56.9 4.0 14.5 11 76 77 <0.2 2.8 Bottom 7.7 20.1 56.9 4.0 11.3 0.2 22 27.4 20.1 56.9 4.0 14.5 11 < 0.2 2.8 1.0 1.0 18 28.2 7.4 7.5 72 13.7 62.5 4.5 8 <0.2 2.6 13.7 62.5 Surface 28.2 7.4 7.4 62.5 4.5 7.4 71 2.7 1.0 1.0 28.2 8 <0.2 2.8 3.6 0.8 17 28.0 7.5 14.0 61.4 4.4 10.5 10 73 <0.2 7.5 14.0 818363 IM1 Cloudy Moderate 19:38 7 1 Middle 28.0 61.4 10.8 10 74 806453 28 7.5 14.0 61.4 4.4 10.5 74 <0.2 2.9 3.6 0.8 28.0 10 6.1 0.6 19 27.3 7.6 21.0 59.7 59.8 4.2 14.4 11 76 <0.2 2.7 Bottom 27.3 7.6 21.0 59.8 4.2 6.1 0.7 19 27.3 7.6 20.9 42 14.4 11 77 <0.2 2.8 1.0 0.9 24 28.1 <0.2 2.7 12.8 4.5 8.5 Surface 28.1 7.4 12.8 61.7 1.0 0.9 24 28.1 7.4 12.8 61.7 4.5 8.5 71 <0.2 2.9 74 2.8 3.9 0.9 28.1 7.4 13.0 62.5 4.5 9.9 11 <0.2 19:32 7.8 7.4 13.0 62.6 818839 806180 IM2 Cloudy Moderate Middle 28 1 10 29 3.9 0.9 23 28.1 7.4 62.6 4.6 10.2 9 75 <0.2 3.0 6.8 0.8 25 28 1 74 13.1 58.7 42 13.4 10 10 < 0.2 2.9 Bottom 7.4 13.1 58.8 4.2 7.4 13.1 58.9 78 6.8 26 42 29 0.8 28 1 13.4 -n 2 1.0 1.1 29 28.2 7.4 12.2 67.2 4.9 10.3 8 70 <0.2 2.7 Surface 28.2 7.4 12.2 67.4 1.0 1.2 28.2 7.4 12.2 67.5 4.9 10.3 70 <0.2 3.0 3.8 1.0 27 28.1 7.4 12.5 13.4 74 <0.2 3.1 IM3 19:25 7.5 Middle 28 1 7.4 12.5 62.9 13 2 819427 806004 3.0 Moderate Cloudy 3.8 1.0 29 28.1 7.4 12.5 62.9 4.6 13.5 10 74 <0.2 2.9 77 6.5 0.9 <0.2 3.0 26 28.1 7.4 12.6 55.5 4.0 16.0 8 7.4 12.6 55.6 4.0 Bottom 28.1 55.6 7.4 12.6 4.0 77 3.0 6.5 1.0 28.1 15.9 < 0.2 28 8 1.0 0.8 27.9 7.4 13.9 64.8 4.7 71 <0.2 2.8 Surface 27.9 7.4 13.9 65.0 65.1 4.7 3.0 1.0 0.9 13 27.9 7.4 13.0 9.7 4 71 <0.2 3.7 0.8 14 27.9 7.4 4.4 10.2 8 75 <0.2 3.2 IM4 19:18 7.3 27.9 7.4 14.0 60.5 819558 805033 3.0 Cloudy Moderate Middle 3.7 0.8 27.9 7.4 14.0 60.6 4.4 10.2 76 <0.2 3.1 6.3 0.8 15 27.8 7.4 4.0 14.4 10 <0.2 3.0 14.1 54.9 27.8 7.4 14.1 54.9 Botton 4.0 6.3 0.8 16 27.8 7.4 14.1 54.9 4.0 14.3 12 77 3.0 < 0.2 1.0 1.0 25 27.7 7.4 14.9 66.3 4.8 8.6 10 70 < 0.2 3.2 Surface 27.7 7.4 14.9 66.6 70 7.4 66.8 < 0.2 3.1 1.0 1.0 27.7 14.9 4.8 8.6 3.3 0.9 30 27.7 7.4 15.0 59.8 4.3 10.9 17 71 <0.2 3.1 IM5 Cloudy 19:12 6.5 Middle 7.4 15.0 59.9 10.3 820550 804915 3.1 Moderate 3.3 0.9 31 27.7 7.4 15.0 60.0 4.4 10.9 17 72 <0.2 3.1 5.5 0.8 30 27.7 11.3 16 77 <0.2 3.0 7.4 15.1 15.1 55.6 4.0 7.4 55.6 4.0 Bottom 27.7 7.4 4.0 0.9 27.7 15.1 11.3 16 <0.2 3.2 1.0 0.9 24 27.7 7.3 14.2 4.4 10.3 12 70 <0.2 3.0 27.7 7.3 14.2 60.7 Surface 14.2 60.7 <0.2 2.9 7.3 4.4 10.3 69 1.0 1.0 25 27.7 11 4.2 3.2 0.8 24 27.6 7.3 55.2 55.2 4.0 11.9 11 72 <0.2 3.3 IM6 19:05 Middle 15.3 55.2 821059 805832 3.2 Cloudy Moderate 6.4 3.2 0.9 25 27.6 7.3 15.3 4.0 11 9 11 73 < 0.2 5.4 0.7 12.2 75 <0.2 3.3 27.6 15.4 54.4 4.0 27.6 7.4 15.4 54.4 4.0 Bottom 5.4 0.7 27.6 7.4 15.4 54.4 4.0 12.1 11 75 <0.2 3.4 26 1.4 23 28.5 7.3 10.4 64.5 8.8 10 <0.2 3.9 Surface 28.5 7.3 10.4 64.5 7.3 4.0 1.0 1.5 23 28.5 10.4 64.5 4.7 8.8 9 69 <0.2 74 73 3.8 3.7 12 27 28 1 7.3 13.2 58.0 42 10.6 11 <0.2 IM7 Cloudy Moderate 18:56 7.3 Middle 13.2 58.0 73 821367 806850 3.9 3.7 1.3 27 7.3 58.0 28 1 4.2 10.6 10 <n 2 6.3 1.0 28 27.7 7.3 15.5 59.8 4.3 14.3 10 77 <0.2 3.8 Bottom 27.7 7.3 15.5 59.9 4.3 6.3 27.7 7.3 15.4 60.0 4.3 14.3 10 77 <0.2 39 1.0 1.3 293 28.7 66 <0.2 3.1 28.7 74 10.5 Surface 56.7 56.7 65 3.0 308 28.7 7.4 4.1 9.4 <0.2 1.0 1.4 9 2.8 3.4 13.3 12 69 1.0 24 28.5 7.4 11.1 56.2 4.1 < 0.2 11.1 821707 IM8 Cloudy Moderate 19:03 6.7 Middle 28.5 7.4 56.2 12 69 807840 3.0 3.4 1.1 28.5 7.4 56.2 41 13.3 11 68 <0.2 24 7.5 7.5 16 17 72 73 5.7 0.8 29 28.4 12.3 59.5 4.3 19.5 <0.2 3.0 Bottom 28.4 7.5 12.3 59.5 4.3 5.7 0.8 31 28.4 3.1

DA: Depth-Average

Water Quality Monitoring Results on 24 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 12 29.0 1.0 299 44 8.6 66 -02 Surface 29.0 7.4 7.2 59.7 74 7.2 1.0 12 302 29.0 59.7 44 8.6 9 65 -02 28 3.5 0.9 310 28.5 7.4 11.9 53.5 3.9 12.3 12 69 < 0.2 2.9 IM9 19:13 6.9 Middle 7.4 11.9 53.5 13.2 12 69 822112 808813 2.8 Cloudy Moderate 3.5 1.0 332 28.5 7.4 11.9 53.5 3.9 12.3 14 70 <0.2 2.9 5.9 0.8 310 28.3 7.6 12.5 18.8 14 72 <0.2 2.7 7.6 12.5 57.8 4.2 Rottom 28.3 0.8 28.3 7.6 12.5 18.8 15 <0.2 2.8 1.0 285 7.5 67 1.0 28.4 59.3 4.3 9.3 11 <0.2 2.6 Surface 28.4 7.5 11.2 59.3 7.5 11.2 59.3 4.3 68 2.6 1.0 1.1 295 28.4 9.3 12 <0.2 4.3 70 70 3.6 0.7 280 28.3 7.5 4.2 12 <0.2 2.8 IM10 Cloudy Moderate 19:27 7.2 Middle 28.3 7.5 12.2 57.5 12.4 12 70 822243 809844 2.7 7.5 12 3.6 0.7 301 28.3 57.5 4.2 11.2 < 0.2 2.9 6.2 0.5 285 28.2 7.5 59.9 4.4 16.8 12 72 <0.2 2.6 7.5 13.0 59.9 Bottom 28.2 6.2 0.5 304 28.2 7.5 13.0 4.4 16.8 12 72 2.6 0.8 69 28.7 7.5 10.6 4.2 8.2 10 < 0.2 2.8 Surface 28.7 7.5 10.6 57.9 1.0 0.8 285 7.5 10.6 57.9 4.2 12 69 2.7 28.7 8.2 < 0.2 72 71 2.8 4.0 0.7 279 28.5 7.5 12.0 55.9 4.1 10.9 12 < 0.2 821492 810543 2.7 IM11 Cloudy Moderate 19:28 7.9 Middle 28.5 7.5 12.0 55.9 12.1 12 7.5 4.0 0.7 282 28.5 55.9 4.1 10.9 13 < 0.2 6.9 0.3 305 28.4 7.5 13.0 56.7 41 17.3 14 74 <0.2 2.6 Bottom 28.4 7.5 13.0 56.7 7.5 73 6.9 0.3 332 28.4 13.0 56.7 41 17.3 13 < 0.2 26 1.0 0.8 322 28.9 7.5 9.4 61.3 9.6 11 66 <0.2 2.6 9.4 4.5 61.3 Surface 28.9 7.5 9.4 4.5 2.7 1.0 0.8 326 28.9 9.7 13 67 <0.2 4.4 12 2.6 3.7 0.5 341 28.7 7.5 11.4 59.0 4.3 12.1 70 <0.2 Middle 11.4 59.0 821181 IM12 Cloudy Moderate 19:34 7.3 28.7 7.5 124 13 70 811531 27 7.5 59.0 71 <0.2 2.7 3.7 0.5 342 28.7 11.4 4.3 12.1 13 6.3 0.5 334 28.6 7.5 12.4 59.9 4.3 15.5 13 73 <0.2 2.7 Bottom 28.6 12.4 59.9 4.3 6.3 0.5 351 28.6 7.5 124 59 9 4.3 15.5 13 72 <0.2 27 1.0 0.4 279 28.7 8.9 70 2.5 10.0 63.8 <0.2 Surface 28.7 7.5 10.0 63.8 1.0 0.5 28.7 7.5 10.0 63.8 4.7 10 69 2.6 300 8.9 < 0.2 4.7 19:56 49 12 821478 814156 SR2 Cloudy Moderate Middle 2.5 72 24 39 0.2 283 28.4 12.4 62.9 46 15.2 14 <0.2 Bottom 28.4 7.6 12.4 62.9 4.6 12.4 62.9 12 7.6 15.2 73 3.9 0.2 290 4.6 28 4 -02 24 1.0 1.9 16 28.3 7.5 10.0 53.9 4.0 9.6 10 Surface 28.3 7.5 10.0 53.9 1.0 1.9 28.3 7.5 10.0 53.9 4.0 9.6 10 4.0 4.6 1.3 28.2 7.5 3.9 13.3 10 SR3 18:57 Middle 28.2 7.5 11.8 53.4 822160 807560 Moderate 9 1 11 Cloudy 4.6 1.3 28.2 7.5 53.4 3.9 13.3 9 8.1 0.8 7.5 11 18 28.1 12.7 55.5 4.1 19.5 12.7 55.5 4.1 Bottom 28.1 7.5 7.5 12.7 55.5 4.1 8.1 0.8 19.5 13 18 28.1 1.0 1.0 284 28.1 7.6 18.4 65.2 65.2 4.6 8.3 Surface 7.6 18.4 65.2 7.6 1.0 1.1 290 28.1 18.4 4.6 8.3 8 3.9 1.0 282 28.0 7.6 18.8 63.8 4.5 12.4 SR4A 20:17 7.8 7.6 18.8 63.8 12.7 817184 807826 Cloudy Moderate Middle 28.0 3.9 1.0 287 28.0 7.6 18.8 4.5 12.3 6.8 0.7 284 27.7 7.6 4.4 17.4 20.0 27.7 61.7 Bottom 7.6 20.0 4.4 6.8 0.8 302 27.7 7.6 61.7 4.4 17.3 10 20.0 7.5 7.5 1.0 0.6 322 28.2 16.6 65.3 4.7 7.2 7 Surface 28.2 7.5 16.6 65.3 1.0 65.2 0.6 344 28.2 16.6 4.6 6.9 SR5A Cloudy 20:38 4.5 Middle 10.3 816574 810696 Moderate 3.5 0.3 319 27.4 13.5 7.6 20.5 60.3 4.3 4.3 27.4 7.6 20.5 60.4 Bottom 60.4 4.3 0.3 326 27.4 7.6 20.5 13.5 1.0 0.1 253 28.2 15.6 5.0 11.2 69.8 7.5 15.7 69.8 Surface 28.2 7.5 69.8 5.0 15.7 1.0 0.2 272 28.2 11.3 7 SR6 21:08 Middle 817909 814655 Cloudy Moderate 3.6 2.6 0.1 28.2 13.4 5.0 28.2 7.5 15.9 70.5 5.0 Bottom 2.6 0.1 7.5 15.9 70.5 5.0 13.5 28.2 0.1 28.5 14.2 66.2 4.8 8.1 7.7 Surface 28.5 14.2 66.2 7.7 1.0 0.1 267 28.5 14.2 66.2 4.8 8.1 4 12.1 8 7 8.2 0.0 268 27.4 18.5 51.3 3.7 SR7 Cloudy Moderate 21:14 16.4 Middle 27.4 18.5 51.3 823652 823722 18.5 51.3 3.7 8.2 0.0 278 27.4 12 1 15.4 0.3 269 26.8 7.7 21.3 50.4 3.6 15.5 Bottom 26.8 7.7 21.3 50.4 3.6 15.4 0.3 26.8 21.3 50.4 3.6 15.5 1.0 0.2 355 28.7 7.6 10.5 10 28.7 7.6 10.5 Surface 66.7 66.7 1.0 0.2 327 28.7 7.6 4.9 9.5 4.9 SR8 Cloudy Moderate 19:44 4.5 Middle 10 820401 811585 7.6 7.6 5.0 5.0 10 3.5 0.2 339 28.9 18.6 28.9 7.6 11.5 68.8 68.8 10 3.5 0.2 346 28.9

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Water Quality Monitoring Results on 24 June 17 during Mid-Ebb tide DO Saturation Dissolved Suspended Solids otal Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) (µg/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.9 215 28.4 7.5 14.8 6.7 65 1.0 72 7 52 -n 2 22 Surface 7.5 1.0 1.0 227 28.4 7.5 14.8 72.5 5.2 6.8 4 66 <0.2 2.0 4.2 1.0 224 27.8 7.5 17.2 60.7 4.3 12.2 6 70 < 0.2 2.1 C1 27.8 7.5 17.2 60.7 13.2 815610 804251 2.0 Cloudy Moderate 12:30 8.3 Middle 70 4.2 1.0 228 27.8 7.5 17.2 60.7 4.3 12.2 69 <0.2 2.2 6 7.3 76 <0.2 0.7 239 26.4 7.6 59.6 4.1 20.5 10 1.8 Botton 7.6 27.2 59.6 7.6 4.1 7.3 0.7 251 26.4 59.6 20.5 q 75 <0.2 19 1.0 1.4 182 28.5 7.4 6.5 57.2 4.3 8.4 12 62 <0.2 2.3 57.2 28.5 7.4 6.5 Surface 7.4 6.5 57.2 4.3 12 2.4 1.0 1.4 196 28.5 8.4 63 <0.2 5.7 0.8 193 28.1 7.5 11.5 3.8 12.2 12 67 <0.2 2.4 51.4 7.5 51.4 67 825667 806927 C2 Cloudy Moderate 14:50 11.3 Middle 28.1 11.5 12 2.4 7.5 67 5.7 0.9 3.8 12.2 13 206 51.4 < 0.2 28.1 10.3 0.5 215 27.6 7.5 14.3 46.5 3.4 20.1 12 70 <0.2 2.4 Bottom 14.3 46.5 3.4 7.5 10.3 0.6 218 27.6 14.3 46.5 3.4 20.1 11 71 <0.2 24 1.0 0.3 102 27.3 7.8 18.3 59.3 4.2 9.3 9 65 <0.2 1.9 Surface 27.3 7.8 18.3 59.3 1.0 0.4 27.3 7.8 18.3 59.3 4.2 64 <0.2 1.8 9.3 5.9 0.2 10.9 69 <0.2 2.0 27.2 19.1 4.0 8 C3 27.2 77 19.1 56.1 12 1 822111 817787 2 0 12:29 11.8 Middle Rainv Moderate 7.7 56.1 2.0 5.9 27.2 19.1 4.0 10.9 71 <0.2 0.3 64 10 10.8 7.7 7.7 3.8 76 77 2.1 0.5 21.0 53.4 53.4 <0.2 60 27.0 16.0 8 Bottom 27.0 7.7 21.0 53.4 3.8 10.8 0.5 62 27.0 16.0 <0.2 19 1.0 1.1 176 28.2 7.5 13.6 68.0 4.9 9.2 66 <0.2 2.6 28.2 7.5 13.6 68.0 Surface 1.0 1.2 190 28.2 7.5 13.6 67.9 4.9 9.3 6 65 <0.2 2.7 4.2 2.5 3.5 0.6 26.8 3.5 12.3 72 < 0.2 12:57 7.6 24.2 49.4 818348 806462 2.5 IM1 Cloudy Moderate 7.0 Middle 26.8 3.5 24.2 49.4 3.5 72 <0.2 0.6 179 26.8 7.6 12.4 8 6.0 210 7.6 21.2 73 < 0.2 2.1 0.2 26.4 27.1 52.7 3.7 16 Botton 26.4 7.6 27.1 52.8 7.6 27.1 3.7 74 52.8 15 6.0 0.2 230 26.4 21.2 < 0.2 1.0 1.2 210 28.1 7.8 14.0 64.7 4.7 8.5 10 65 <0.2 2.7 14.0 64.7 Surface 7.8 66 2.5 1.0 1.3 230 28.1 7.8 14.0 4.7 8.5 10 <0.2 4.0 1.2 213 27.8 7.5 15.8 60.8 4.4 11.9 9 73 <0.2 2.4 15.8 IM2 13:07 8.0 Middle 27.8 7.5 60.8 13.7 72 818854 806178 2.5 Cloudy Moderate 4.0 1.3 27.8 7.5 15.8 4.4 11.8 73 <0.2 2.3 7.0 0.8 200 27.4 7.6 19.8 4.3 20.7 76 <0.2 2.4 Bottom 27.4 7.6 19.8 60.2 4.3 7.0 7.6 19.8 60.2 4.3 21.0 76 <0.2 2.5 0.8 212 27.4 10 1.0 <0.2 2.8 1.0 204 28.6 7.5 11.7 75.4 5.5 5.5 9.3 65 11.7 Surface 28.6 7.5 75.4 7.5 75.3 1.0 1.0 206 28.6 9.5 8 66 4.0 1.0 210 27.5 7.6 18.2 56.0 4.0 12.9 6 73 <0.2 2.6 IM3 13:17 7.9 Middle 7.6 18.2 56.0 819421 806005 Cloudy Moderate 4.0 1.0 216 27.5 7.6 18.2 56.0 4.0 13.1 74 <0.2 2.5 19.8 76 <0.2 2.5 0.6 27.4 19.4 58.1 Bottom 27.4 7.6 19.4 58.1 19.4 2.5 6.9 0.7 209 27.4 7.6 9 <0.2 <0.2 2.4 1.0 0.6 193 28.1 7.6 4.9 19.5 67 15.0 67.5 67.5 10 Surface 28 1 7.6 15.0 1.0 7.6 15.0 67.5 66 0.6 211 28.1 4.9 19.4 3.6 0.6 200 28.0 7.6 15.5 64.9 47 19.7 10 72 < 0.2 2.5 IM4 13:26 7.2 Middle 15.5 64.9 20.2 819568 805037 Cloudy Moderate 3.6 0.6 210 28.0 7.6 15.5 64.8 4.7 19.5 12 71 <0.2 2.4 6.2 0.7 215 27.8 7.6 18.5 4.7 21.5 13 76 <0.2 2.3 Bottom 27.8 7.6 18.5 66.5 4.7 0.8 7.6 18.5 66.5 47 21.4 75 <0.2 2.5 27.8 1.0 1.3 201 28.5 2.6 12.1 5.2 11 <0.2 7.5 Surface 28.5 12.1 71.8 1.0 1.3 201 28.5 7.5 12.1 71.8 5.2 10.8 10 67 <0.2 2.4 7.5 7.5 72 72 <0.2 2.4 3.4 1.2 207 28.3 13.2 13.2 66.9 66.9 4.8 12.6 10 IM5 Moderate 13:38 6.8 Middle 28.3 7.5 13.2 66.9 13.0 72 820547 804912 2.4 Cloudy 1.3 4.8 3.4 223 28.3 126 9 77 5.8 1.0 212 27.3 7.5 20.3 4.4 15.7 11 <0.2 2.4 Bottom 27.4 7.5 20.3 62.9 5.8 1.0 216 27.4 7.5 20.3 63.0 45 15.7 9 76 <0.2 2.4 16.1 28.2 7.5 14.0 67.6 Surface 1.0 235 28.2 7.5 14.0 67.6 4.9 16.2 66 <0.2 2.4 8 2.4 3.2 0.9 240 27.6 7.4 16.9 54.8 3.9 18.5 12 69 < 0.2 7.4 16.9 54.8 821067 805840 IM6 Cloudy Moderate 13:50 6.4 Middle 27.6 18.2 10 70 2.4 7.4 12 70 3.2 0.9 252 16.9 54.8 3.9 < 0.2 27.6 18.5 5.4 0.7 241 27.2 7.5 19.7 58.7 4.2 19.8 10 75 <0.2 2.2 Bottom 27.2 7.5 19.7 58.8 4.2 5.4 0.7 259 27.2 7.5 197 58.9 42 19.8 10 75 <0.2 24 1.0 1.4 196 28.4 7.3 9.6 63.9 4.7 10.0 69 <0.2 2.7 28.4 7.3 9.6 63.9 Surface 1.5 196 28.4 7.3 9.6 63.9 4.7 10.1 68 <0.2 2.7 4.4 3.9 1.0 211 27.8 7.4 14.0 4.0 14.2 73 <0.2 2.6 54.6 IM7 14:06 7.4 14.0 54.6 15.2 73 821358 806816 2.6 Cloudy Moderate 7.7 Middle 27.8 3.9 7.4 14.0 54.6 4.0 14.2 73 <0.2 2.6 1.1 228 27.8 8 6.7 222 76 <0.2 2.5 0.8 27.5 7.4 16.0 59.9 4.3 21.4 Botton 27.5 7.4 16.0 59.9 4.3 7.4 16.0 59.9 4.3 21.5 76 < 0.2 6.7 0.9 226 27.5 8 2.6 1.0 1.1 191 28.7 7.6 4.8 9.6 66 <0.2 2.7 Surface 28.7 7.6 11.1 65.5 1.0 194 28.7 7.6 65.5 4.8 9.6 65 <0.2 2.7 10.2 0.9 203 28.2 4.2 71 <0.2 2.7 57.4 821677 807832 IM8 Cloudy Moderate 14:23 7.7 Middle 28.2 7.6 14.1 12.4 2.5 7 71 2.9 3.9 0.9 210 28.2 7.6 14.1 57.4 4.2 10.2 <0.2 76 77 2.2 6.7 0.5 227 27.7 7.6 7.6 16.5 54.8 3.9 17.5 18 < 0.2 27.7 7.6 16.5 54.8 Rottom 3.9 6.7 16.5 3.9 19 249 27.7 0.5 54.8 < 0.2

DA: Depth-Averaged

Water Qua Water Qua			lts on		24 June 17 du	ring Mid-E	bb tide																				
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Ten	nperature (°C)	pl	Н	Salini	ity (ppt)		turation	Dissolved Oxygen	Turbidity	(NTU)	Suspende (mg/		Total Alkali (ppm)	Coord		dinate	omium ug/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value	Average	Value A	Average	Value	Average	1	,0,	Ϋ́	Value	DA	Value	DA	Value D	A (Nort		aria		Value DA
					Surface	1.0	0.9	155	28.7	28.7	7.6	7.6	10.8	10.8	65.4	65.4	4.8	8.9		5		65			<0.2		2.9
IM9	Cloudy	Moderate	14:14	6.6	Middle	3.3	0.9	156 155	28.7	27.9	7.6	7.6	10.8	15.0	65.4 53.9	53.9	4.8 3.9 4.4	10.5	11.4	5 6	9	66 72 7	1 822	79 808	<0.2 804	-0.2	2.7
					Bottom	3.3 5.6	0.6	163 146	27.9 27.6	27.6	7.6 7.6	7.6	15.0 17.0	17.0	53.9 55.9	55.9	3.9 4.0 4.0	10.3 14.9		5 16		71 75			<0.2		2.8
						5.6 1.0	0.3 1.1	150 133	27.6 28.7		7.6 7.6		17.0 10.7		55.9 67.5		4.0	14.9 9.4		16 5		74 65			<0.2		2.9
					Surface	1.0	1.2 0.9	141 127	28.7 28.2	28.7	7.6 7.6	7.6	10.7	10.7	67.5 55.7	67.5	4.9 4.0	0.4		6		66			<0.2		2.6
IM10	Cloudy	Moderate	14:03	7.0	Middle	3.5	1.0	131	28.2	28.2	7.6	7.6	14.0	14.0	55.7 54.5	55.7	4.0	11.0	12.8	5	7	72 75	1 822	240 809	827 <0.2 <0.2	<0.2	2.8 2.9 2.8
					Bottom	6.0	0.5	115	27.6	27.6	7.6	7.6	17.2	17.2	54.5	54.5	3.9	17.9		8		75			<0.2		2.9
					Surface	1.0	0.8	122 131	28.2 28.2	28.2	7.6	7.6	13.1 13.1	13.1	60.3	60.3	4.4 4.4 4.1	8.1 8.1		4		66 65			<0.2 <0.2		2.9
IM11	Rainy	Moderate	13:49	8.2	Middle	4.1	0.6	111 114	27.7 27.7	27.7	7.7	7.7	16.6 16.6	16.6	53.5 53.5	53.5	3.8	19.4 19.4	16.8	6 5	5	72 71	1 821	603 810	553 <0.2		2.7 2.6
					Bottom	7.2 7.2	0.5 0.5	104 110	27.7 27.7	27.7	7.7	7.7	17.1 17.1	17.1	59.7 59.7	59.7	4.3 4.3	22.9 22.9		6		74 75			<0.2		2.4
					Surface	1.0	0.9	117 117	28.5 28.5	28.5	7.6 7.6	7.6	11.6 11.6	11.6	66.3 66.3	66.3	4.8	8.6 8.6		5 5		65 65			<0.2 <0.2		2.7
IM12	Rainy	Moderate	13:35	8.3	Middle	4.2	0.8	98 105	28.0 28.0	28.0	7.7	7.7	13.5	13.5	59.3 59.3	59.3	4.6 4.3 4.3	12.5 12.5	15.5	4 5	10	74	0 821	79 811	-0.2	-0.2	2.7 2.6
					Bottom	7.3 7.3	0.5	88	27.8	27.8	7.7	7.7	16.5 16.5	16.5	57.8 57.8	57.8	4.1	25.4		20		74			<0.2		2.3
					Surface	1.0	0.5	88 71	27.8 28.3	28.3	7.6	7.6	11.4	11.4	65.6	65.6	4.1	25.4 9.0		5		75 67			<0.2 <0.2		2.8
SR2	Rainy	Moderate	13:07	4.4	Middle	1.0	0.7	75	28.3	-	7.6	7.0	11.4		65.6	00.0	4.8	9.0	13.8	4	4	68 - 7	0 821	169 814	<0.2	<0.2	2.9 - 2.9
Snz	riality	Wioderate	13.07	4.4	Bottom	3.4	0.5	- 44	27.7	27.7	7.7		17.1	47.4	64.8		4.6	18.6	13.0	- 4	*	71	0 021	014	<0.2		2.9
					Bottom	3.4 1.0	0.5	48 203	27.7		7.7	7.7	17.1 10.4	17.1	64.8 63.9	64.8	4.6 4.7	18.6 11.7		4		73			<0.2		2.8
					Surface	1.0	0.7	204 219	28.7	28.7	7.6 7.6	7.6	10.4	10.4	63.9 53.2	63.9	4.7 3.9 4.3	11.7		6 7		-			-	1	-
SR3	Cloudy	Moderate	14:31	8.0	Middle	4.0	0.4	221	27.8	27.8	7.6	7.6	14.8	14.8	53.2	53.2	3.9	19.9	<u>25.5</u>	7	11	-	822	66 807	588	1 -	-
					Bottom	7.0 7.0	0.2	307 329	27.6 27.6	27.6	7.6	7.6	16.3 16.3	16.3	54.6 54.6	54.6	3.9 3.9	44.8 44.8		20 20		-			-	<u> </u>	-
					Surface	1.0	0.1	206 211	28.1 28.1	28.1	7.5 7.5	7.5	16.9 16.9	16.9	69.0 69.0	69.0	4.9 4.9 4.3	8.3 8.3		7		-			-	_	-
SR4A	Rainy	Calm	12:10	9.4	Middle	4.7	0.1	255 277	26.5 26.5	26.5	7.6	7.6	26.4 26.4	26.4	53.7 53.7	53.7	3.7	15.1 15.1	14.2	9 10	11	-	- 817	91 807	801 -		
					Bottom	8.4 8.4	0.1	215 226	26.2 26.2	26.2	7.6	7.6	28.4	28.4	61.5 61.9	61.7	4.2 4.3	10.1		18 17		-			-	-	-
					Surface	1.0	0.1	31 32	28.5	28.5	7.5 7.5	7.5	15.7 15.7	15.7	74.3 74.1	74.2	5.3	8.8 8.9		6		-				_	-
SR5A	Rainy	Calm	11:53	5.3	Middle	-	-	-	-	-	-	-	-	-	-	-	5.3	-	15.2	-	6	-	816	98 810	687	1 .	-
	,				Bottom	4.3	0.1	283	27.3	27.3	7.4	7.4	22.1	22.3	72.4	72.8	5.1 5.1	21.7		5		-			-	1	-
					Surface	1.0	0.1	307 97	27.3 28.4	28.4	7.4 7.5	7.5	22.4 15.2	15.2	73.1 68.2	68.1	4.9	21.4 13.0		6 5		-			-	+-	-
0.00			44.00			1.0	0.2	97	28.4	20.4	7.5	7.5	15.2	13.2	67.9	00.1	4.9	13.3	45.5	5	_	-			-	-	-
SR6	Rainy	Calm	11:28	5.0	Middle	4.0	0.1	70	27.0	-	7.4	-	20.8	-	80.3	-	5.7	17.8	15.5	- 5	5	-	- 817	008 814		-	-
					Bottom	4.0	0.1	73	27.0	27.0	7.4	7.4	20.8	20.8	80.3	80.3	5.7	17.8		5		-			-	1	-
					Surface	1.0	0.8	52 52	28.6	28.6	7.8	7.8	14.9	14.9	74.6 74.6	74.6	5.3 5.3 4.8	6.1		5		-			-	1	-
SR7	Cloudy	Moderate	11:21	16.7	Middle	8.4 8.4	0.6	20 20	27.2 27.2	27.2	7.7	7.7	19.4 19.4	19.4	60.5 60.5	60.5	4.3	6.7	6.9	3	5	-	823	823	738 -		-
					Bottom	15.7 15.7	0.7 0.7	43 45	27.0 27.0	27.0	7.7	7.7	20.6	20.6	61.9 61.9	61.9	4.4 4.4	8.0		6		-			-	<u>1</u>	
					Surface	1.0	0.1	250 261	28.5 28.5	28.5	7.7	7.7	14.1	14.1	67.0 67.0	67.0	4.8	11.8 11.8		9 10	Ī	-			-	-	-
SR8	Rainy	Moderate	13:26	5.5	Middle	-	-		-	-	-	-	-	-	-	-	4.8	-	16.5	-	10	-	820	811	577] -	-
					Bottom	4.5	0.1	289 298	28.2	28.2	7.7	7.7	15.3 15.2	15.3	66.9 67.1	67.0	4.8	21.2		10	ŀ	-			-	1	
DA: Denth-Aver		l	1			4.5	U. I	298	28.2		1.1		15.2		0/.1		4.8	21.2		10		- 1					<u> </u>

Water Quality Monitoring Results on 27 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (maga) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.8 28.2 1.0 41 120 8.7 Surface 28.2 12.0 77.9 73 1.0 0.8 42 28.2 77.8 5.7 8.8 8 -02 4.4 0.9 53 26.1 7.8 27.5 52.3 3.6 9.5 10 75 <0.2 1.6 C1 07:58 8.8 Middle 7.8 27.5 52.3 11.0 75 815604 804238 1.7 Cloudy Moderate 4.4 0.9 54 26.1 7.8 27.5 52.3 3.6 9.6 75 <0.2 7.8 0.6 60 25.9 29.0 68.6 14.4 9 77 <0.2 1.6 7.7 29.0 4.8 Rottom 25.9 69.0 25.9 77 28.9 69.3 4.8 14.8 <0.2 1.7 1.0 0.5 353 7.7 70 29.0 65.7 4.8 10.1 6 <0.2 2.5 Surface 29.0 7.7 11.1 65.7 65.7 4.8 2.3 1.0 0.5 358 29.0 11.1 10.1 5 71 <0.2 6.6 7.7 73 74 0.3 59 28.6 13.8 61.2 4.4 12.5 6 <0.2 2.2 825685 C2 Cloudy Moderate 09:28 13.1 Middle 28.6 7.7 13.8 61.2 13.5 73 806955 2.3 6.6 0.3 59 28.6 13.8 61.2 4.4 12.5 8 < 0.2 2.4 12.1 0.4 283 28.3 7.7 16.9 4.8 17.9 14 75 <0.2 2.2 7.7 16.9 67.0 4.8 Bottom 28.3 12.1 0.4 284 28.3 7.7 16.9 67.0 4.8 17.9 15 76 2.1 70 28.7 7.8 12.1 5.3 3 < 0.2 2.3 Surface 28.7 7.8 12.1 72.5 1.0 0.7 237 7.8 12.1 72.5 5.3 4 69 2.4 28.7 < 0.2 9.7 75 74 6.7 0.7 250 26.2 7.9 24.7 56.0 3.9 6 < 0.2 1.8 24.7 822122 817784 C3 Cloudy Moderate 07:37 13.4 Middle 26.2 7.9 56.0 2.0 6.7 0.7 273 26.2 7.9 24.7 56.0 3.9 9.7 < 0.2 1.8 124 0.4 303 25.3 7.9 29.0 60.4 4.2 15.8 8 77 77 <0.2 2.0 Bottom 25.3 7.9 29.0 60.4 4.2 7 124 0.4 322 25.3 79 29.0 60.4 42 15.8 <0.2 1.8 1.0 0.6 15 28.4 7.8 12.4 78.8 78.7 8.0 4 74 1.9 12.4 <0.2 78.8 Surface 28.4 7.8 7.8 12.4 5.7 73 2.0 1.0 0.6 28.4 8.1 6 <0.2 4.5 0.6 3 28.0 7.8 15.5 75.6 5.4 12.5 8 76 <0.2 2.1 7.8 15.5 75.7 818359 IM1 Cloudy Moderate 08:13 8.9 Middle 28.0 75 806477 21 7.8 15.5 75.7 5.4 12.6 75 <0.2 2.1 4.5 0.6 28.0 6 77 7.9 0.4 27.9 7.8 16.7 80.1 5.7 5.7 19.5 12 <0.2 2.2 Bottom 27.9 7.8 16.7 80.3 5.7 79 0.4 27.9 7.8 16.7 80.4 19.8 12 77 <0.2 2.3 1.0 0.7 28.7 7.8 74 <0.2 2.5 10.9 78.6 Surface 28.7 7.8 10.9 78.5 1.0 0.7 28.7 7.8 10.9 78.4 5.7 7.9 6 73 <0.2 2.4 12.6 75 2.6 0.6 27.9 7.8 15.9 72.4 5.2 <0.2 8 9.5 27 9 7.8 15.7 72.4 818847 806176 IM2 Cloudy Moderate 08:18 Middle 12 0 75 25 4.8 0.6 27.9 7.8 15.5 72.4 5.2 12.8 75 <0.2 2.6 77 8.5 0.5 19 27.8 7.8 17.7 79.8 79.8 5.7 15.4 7 < 0.2 2.4 Bottom 27.9 7.8 17.7 79.8 5.7 77 8.5 7.8 0.5 19 15.2 2.3 27.9 -n 2 1.0 0.7 359 28.3 7.7 12.8 75.2 5.5 9.1 6 73 <0.2 2.5 Surface 28.3 7.7 12.8 75.2 1.0 0.7 330 28.3 77 12.8 75.2 5.5 8.9 73 <0.2 2.3 4.9 0.5 27.4 7.8 10.6 75 <0.2 2.7 IM3 08:25 97 Middle 27.4 7.8 20.2 60.8 10.3 819409 806006 2.5 Moderate Cloudy 4.9 0.6 27.4 7.8 20.2 60.8 4.3 10.7 76 <0.2 2.6 6 77 8.7 0.6 40 7.8 <0.2 2.4 27.4 20.0 64.6 4.6 8 20.0 64.7 4.6 Bottom 27.4 7.8 7.8 64.8 4.6 11.3 77 2.3 8.7 0.6 42 27.4 < 0.2 358 1.0 0.6 28.3 7.8 5.6 8.8 73 <0.2 2.4 Surface 28.3 7.8 13.3 76.8 76.7 5.6 73 1.0 0.6 329 28.3 7.8 8.8 6 < 0.2 2.2 1.9 4.5 0.6 19 27.8 7.8 70.4 5.1 9.4 75 < 0.2 IM4 08:35 27.8 7.8 16.2 70.4 10.2 819579 805032 2.1 Cloudy Moderate 9.0 Middle 4.5 0.6 27.8 7.8 16.2 70.3 9.4 8 76 <0.2 8.0 0.5 26.7 7.8 12.2 <0.2 1.9 24.7 54.5 3.8 26.7 7.8 24.7 54.6 Botton 8.0 0.5 13 26.7 7.8 24.6 54.6 3.8 12.3 77 1.9 < 0.2 1.0 0.8 28.0 7.8 14.7 74.6 5.4 9.8 8 73 73 < 0.2 2.2 14.7 Surface 7.8 74.6 7.8 14.7 74.5 5.4 9.7 9 < 0.2 2.0 1.0 0.8 28.1 4.3 0.5 27.6 7.8 18.0 67.9 4.8 10.3 11 75 <0.2 1.8 IM5 Cloudy 08:45 8.6 Middle 27.6 7.8 18.0 67.9 12.6 820553 804935 Moderate 4.3 0.6 27.6 7.8 18.0 67.9 4.8 10.3 11 75 <0.2 1.9 7.6 0.5 17.7 11 77 1.8 26.7 7.8 25.2 25.2 74.0 5.1 <0.2 7.8 73.8 5.2 Bottom 26.7 7.8 18.0 0.5 26.7 25.2 13 <0.2 1.9 1.0 0.7 19 28.5 7.8 12.8 5.7 9.3 9 74 <0.2 2.2 28.5 7.8 12.8 78.6 Surface 12.8 78.6 5.7 <0.2 2.1 0.8 28.5 7.8 9.4 73 1.0 19 10 4.0 0.5 20 28.0 7.8 16.0 70.4 5.0 16.4 10 75 <0.2 2.1 IM6 08:58 Middle 28.0 16.0 70.4 15.4 821045 805845 2.1 Cloudy Moderate 7.9 4.0 0.5 21 28.0 7.8 16.0 70.4 5.0 16.5 11 75 < 0.2 6.9 0.5 56 20.1 13 77 <0.2 2.0 27.7 21.7 5.4 27.7 7.8 21.7 77.2 Bottom 6.9 0.5 56 27.7 7.8 21.6 5.4 20.7 12 77 <0.2 2.1 0.9 28.2 14.2 5.2 10.4 10 73 <0.2 2.2 7.7 Surface 28.2 14.2 72.2 7.7 5.2 73 2.0 1.0 0.9 35 28.2 14.2 72.1 10.6 10 <0.2 17.6 75 75 2.0 45 0.7 35 27.8 16.7 69.0 49 13 <0.2 IM7 Cloudy Moderate 09:06 9.0 Middle 27.8 16.7 69.1 16.5 13 821352 806834 2.0 4.5 0.7 7.8 16.7 49 12 38 27.8 69 1 <n 2 8.0 0.4 59 27.7 7.8 18.3 75.8 5.4 21.3 16 77 <0.2 1.8 Bottom 27.7 7.8 18.3 76.0 5.4 8.0 0.4 27.7 7.8 18.2 76.2 5.4 21.3 77 <0.2 19 1.0 0.3 32 29.2 11.1 11.2 69 <0.2 2.5 29.2 7.8 Surface 11.1 71.2 2.6 0.3 29.2 7.8 71.2 5.1 11.2 10 71 <0.2 1.0 33 2.5 5.0 13.2 10 73 4.7 0.3 26 7.9 12.6 69.0 < 0.2 28.8 12.6 821701 IM8 Cloudy Moderate 09:04 9.3 Middle 28.8 7.9 69.0 73 807823 2.5 74 47 0.3 7.9 126 69 N 5.0 13.2 8 <0.2 27 28.8 7.9 7.9 73.0 73.0 5.2 5.2 75 8.3 0.2 63 28.6 16.1 16.8 15 <0.2 2.3 Bottom 28.6 7.9 16.1 73.0 5.2 8.3 0.2 63 28.6 14 2.5

DA: Depth-Average

Water Quality Monitoring Results on 27 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.2 29.0 1.0 49 114 68.3 49 10.0 -02 28 Surface 29.0 7.8 68.3 7.8 11 4 1.0 0.2 53 29.0 68.3 49 10.0 71 -02 28 4.3 0.1 35 28.8 7.8 12.0 68.4 4.9 13.2 8 74 <0.2 2.8 IM9 08:55 8.5 Middle 7.8 12.0 68.4 13.1 73 822081 808814 2.8 Cloudy Moderate 4.3 0.1 28.8 7.8 68.4 4.9 13.2 73 <0.2 2.6 7.5 0.1 208 28.7 7.8 13.1 16.2 9 75 <0.2 2.7 7.8 13.1 69.5 5.0 Rottom 28.7 0.1 7.8 69.5 16.2 <0.2 2.8 1.0 0.4 289 7.8 69 28.5 13.0 69.5 5.0 9.4 <0.2 2.5 Surface 28.5 7.8 13.0 69.5 69.5 7.8 13.0 5.0 2.5 1.0 0.4 313 28.5 9.4 6 70 <0.2 4.9 72 73 4.1 0.6 313 28.2 7.8 14.3 66.7 4.8 10.8 <0.2 2.4 IM10 Cloudy Moderate 08:47 8.2 Middle 28.2 7.8 14.3 66.7 11.2 73 822228 809857 2.4 66.7 2.5 4.1 0.6 318 28.2 7.8 14.3 4.8 10.8 6 < 0.2 7.2 0.4 338 27.8 7.8 16.8 63.5 4.5 13.5 76 <0.2 2.4 27.8 7.8 16.8 63.5 4.5 Bottom 7.2 0.4 311 27.8 7.8 16.8 4.5 13.5 75 2.2 0.4 28.4 4.9 10.7 71 7.8 13.6 < 0.2 2.4 Surface 28.4 7.8 13.6 68.0 1.0 0.4 315 7.8 13.6 68.0 4.9 10.7 72 2.5 28.4 < 0.2 75 75 2.5 4.5 0.3 310 27.7 7.8 17.3 61.9 4.4 12.4 5 < 0.2 17.3 821512 810557 IM11 Cloudy Moderate 08:37 8.9 Middle 27.7 7.8 61.9 13.1 2.4 4.5 0.3 319 27.7 7.8 17.3 61.9 4.4 12.4 6 < 0.2 7.9 0.2 295 27.7 7.9 17.7 63.9 4.6 16.2 13 76 <0.2 2.2 Bottom 7.9 17.7 63.9 4.6 7 9 0.2 317 27.7 79 177 63.9 46 16.2 14 76 <0.2 24 1.0 0.4 266 28.4 7.8 13.3 9.6 71 <0.2 2.6 13.3 5.0 8 68.8 Surface 28.4 7.8 7.8 68.8 5.0 72 2.6 1.0 0.4 272 28.4 9.6 <0.2 75 2.4 4.8 0.4 248 28.0 7.8 15.5 64.4 4.6 10.6 7 < 0.2 Middle 15.5 821146 IM12 Cloudy Moderate 08:27 95 28.0 7.8 64.4 74 811536 2.3 7.8 15.5 64.4 4.6 74 <0.2 2.4 4.8 0.4 266 28.0 10.6 6 8.5 0.0 175 27.3 7.9 19.8 59.3 4.2 15.2 10 76 <0.2 1.9 Bottom 27.3 7.9 19.8 59.3 4.2 8.5 0.0 189 27.3 79 198 59.3 42 15.2 11 76 <0.2 2.0 1.0 0.1 178 28.2 2.5 7.8 14.4 4.6 10.2 72 <0.2 Surface 28.2 7.8 14.4 63.9 1.0 7.8 14.4 63.9 4.6 71 2.6 0.2 194 28.2 10.2 < 0.2 4.6 4.8 821478 814182 SR2 Cloudy Moderate 08:02 Middle 22 76 3.8 0.0 50 27.3 79 19.8 59.1 4.2 16.3 16 <0.2 1.8 Bottom 27.3 7.9 19.8 59.1 4.2 59.1 52 7.9 42 75 3.8 0.0 19.8 16 27.3 16.3 -02 1.8 1.0 0.5 359 29.0 7.8 11.6 71.9 5.2 10.1 8 Surface 29.0 7.8 11.6 71.9 1.0 0.5 330 29.0 7.8 11.6 71.9 5.2 10.1 4.9 0.5 34 28.5 7.8 15.1 4.9 11.8 SR3 09.08 97 Middle 28.6 7.8 15.0 69.3 124 822135 807566 Moderate 8 Cloudy 4.9 0.5 34 28.6 7.8 14.9 69.3 4.9 11.8 8.7 0.3 58 7.8 17.5 15.2 28.4 70.8 70.8 5.0 8 17.5 5.0 Bottom 28.4 7.8 70.8 17.5 5.0 7.8 15.2 8.7 0.3 59 28.4 1.0 0.1 61 28.2 14.1 5.6 8.8 Surface 28.2 7.7 14.1 76.9 7.7 76.9 5.6 1.0 0.1 65 28.2 1/1/1 8.8 8 4.6 0.1 258 28.1 75.3 5.4 10.8 10 SR4A 07:33 7.7 16.0 75.3 10.6 817184 807795 Cloudy Moderate 9.2 Middle 28.1 10 4.6 0.1 258 28.1 7.7 16.0 75.3 5.4 10.8 10 8.2 0.1 28.0 12.1 79.4 5.7 7.7 17.0 79.6 Bottom 28.0 8.2 0.1 257 17.0 79.7 5.7 12.1 28.0 1.0 0.1 290 28.2 7.7 16.4 73.5 5.2 11.2 Surface 28.2 7.7 16.4 73.5 7.7 7 1.0 312 73.5 5.2 0.1 28.2 16.4 11.3 SR5A Cloudy 07:16 5.8 Middle 12.2 10 816591 810688 Moderate 4.8 0.1 321 28.0 17.1 13.2 12 5.6 7.7 17.1 78.3 5.6 Bottom 28.0 78.4 5.6 4.8 0.1 349 28.0 13.2 12 1.0 0.2 221 28.3 12.6 5.4 8.0 7.7 12.6 74.5 Surface 28.3 74.5 5.4 7.7 12.6 1.0 0.2 235 28.3 8.0 6 SR6 06:47 4.7 Middle 817910 814649 Cloudy Moderate 0.1 254 28.2 8.8 10 5.6 28.2 7.7 13.8 77.6 5.6 Bottom 3.7 0.1 13.9 77.7 5.6 8.8 28.2 8 0.1 28.4 7.8 13.8 6.9 Surface 28.4 7.8 13.8 70.4 1.0 0.1 19 7.8 13.8 70.4 5.1 6.9 4 28.4 8.4 0.1 324 27.0 79 22.2 67.5 49 8.0 4 SR7 Cloudy Moderate 07:07 16.8 Middle 27.0 7.9 22.2 67.5 9.9 823645 823751 8.4 79 4 0.1 338 27.0 22.2 67.5 49 8.0 15.8 1.0 25.0 7.9 29.9 51.2 3.6 14.7 Bottom 25.0 7.9 29.9 51.2 3.6 15.8 1.0 25.0 7.9 29.9 51.2 3.6 14.7 1.0 0.1 28.4 7.8 13.6 14.1 7.8 13.6 67.6 Surface 28.4 1.0 0.2 51 28.4 7.8 67.6 4.9 14.1 4 4.9 SR8 Cloudy Moderate 08:19 5.2 Middle 16.5 820406 811592 7.8 7.8 63.0 63.0 4.2 0.2 242 27.8 4.5 18.8 4 27.8 7.8 17.4 63.0 4.2 0.2 248 27.8 4

DA: Depth-Averaged

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 27 June 17 during

Water Qua Water Qua			lts on		27 June 17 during Mid	-Ebb tide																			
Monitoring	Weather	Sea	Sampling	Water	<u>, , , , , , , , , , , , , , , , , , , </u>	Current Speed	Current	Water Tempera	ature (°C)	рН	Sa	alinity (p	(ppt) DO S	Saturation	Disso		Turbidity(NTU)	Suspended (ma/L		otal Alkalinit	Coordinate		Chromium (µg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value Av	verage	Value Ave	erage Vali	ue Ave	verage Value	(70)	,		Value	DA	Value Value	<i>'</i>	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value DA
					Surface 1.0	0.4	255	28.4	28.4	7.9	7.9		15.6 73.2		5.2		9.1		12		72			<0.2	1.6
C1	Cloudy	Moderate	14:51	9.2	1.0 Middle 4.6	0.4	263 232	28.4 25.8	25.8	7.9	7.8	5	72.9		5.2 3.7	4.5	8.9 11.3	12.8	11	14	72 75 75	815604	804238	<0.2	2 1.6
01	Cioudy	Moderate	14.51	5.2	4.6	0.1	252 166	25.8		7.8	27.	5	53.8		3.8 4.8		11.4 17.9	12.0	12 18	14	75 76	813004	004230	<0.2	1.7
					Bottom 8.2	0.2	175	25.4	25.4	7.8	7.8	7	75.2	/2./	5.2	5.0	18.0		18		77			<0.2	0.7
					Surface 1.0 1.0	0.2	52 56	29.2	29.2	7.7	7.7		11.1 68.5		4.9	4.7	9.5 9.5		9		69 69			<0.2	2.7
C2	Cloudy	Moderate	13:53	13.6	Middle 6.8 6.8	0.1	185 186	28.8	28.8	7.7	7.7		13.3 63.1		4.5 4.5	4.7	10.9	12.3	11	10	72 71 72	825685	806955	<0.2	2 2.5 2.7
					Bottom 12.6 12.6	0.1	198 208	28.4	28.4	7.7	7.7 20.		20.7 65.6		4.6 4.6	4.6	16.5 16.5	F	11		75 76			<0.2	2.9
					Surface 1.0 1.0	0.5	96 99	20.0	28.9	7.0	7.8	8 4	72.6 72.6	72.6	5.2 5.2		7.3 7.3	-	4		70			<0.2	2.4
C3	Cloudy	Moderate	15:29	12.9	Middle 6.5	0.1	162	26.5	26.5	7.9	7 0 24.	0 2	61.5	61.5	4.3	4.8	6.3	6.7	6	6	75 74	822122	817784	<0.2	2 1.7
					6.5 Bottom 11.9	0.1	164 139	26.5 25.8	25.8	7.9	7 0 27.	2 2	61.5 27.2 63.4	62.4	4.3 4.4	4.4	6.3 6.5	E	8		75 77			<0.2	1.8
					11.9	0.8	143 217	25.8		7.9	127.	2	63.4		4.4 6.0		6.5 7.9	+	6 7		78 72			<0.2	1.2
					1.0	0.1	225 97	28.6	28.6	7.8	13.	8 '	83.6	03.0	6.0 4.1	5.1	7.8 14.3	F	8		72			<0.2	1.7
IM1	Cloudy	Moderate	14:34	8.5	Middle 4.3	0.2	97	26.8	26.7	7.8	7.8	4	58.9	58.9	4.1		14.2	13.5	7	9	75	818359	806477	<0.2	2.0
					Bottom 7.5 7.5	0.1	80 82	25.9	25.9	7.8	7.8 28.	6	28.6 60.8	61.0	4.2	4.2	18.3 18.2		11 12		77 77			<0.2 <0.2	1.3
					Surface 1.0 1.0	0.1	22 23	27.9	27.9	7.8	7.8	7 1	17.7 68.6 68.5		4.9	4.7	9.8 9.8	E	6		72 72			<0.2 <0.2	1.8
IM2	Cloudy	Moderate	14:27	9.4	Middle 4.7 4.7	0.2	40 43	27.0 27.0	27.0	7.8	7.8 22.		22.3 63.7	63.7	4.5 4.5	4.7	13.1	13.4	10	9	75 75	818847	806176	<0.2	2 1.4 1.5
					Bottom 8.4 8.4	0.1	109 117	26.0 26.0	26.0	7.0	7.8 28.	1 ,	28.1 77.1	77.6	5.3 5.4	5.4	17.2 17.2	F	11		77 77			<0.2 <0.2	1.2
					Surface 1.0 1.0	0.2	349 321	20.2	28.3	7.0	7.8 13.	7 1	13.7 74.8 73.8	74.3	5.4	-	10.3		7		72 72			<0.2	1.9
IM3	Cloudy	Moderate	14:19	9.7	Middle 4.9	0.2	12	27.5	27.6	7.0	7.8 20.	2 2	68.8	68.8	4.9	5.1	13.3	13.7	5	7	75 74	819409	806006	<0.2	1.0
					8.7 Bottom	0.2	12 94	27.6 26.4	26.4	7.8	7 0 26.	9 2	68.7 26.9	7/ 0	5.2	5.2	17.1		9		75 76			<0.2	1.4
					8.7 Surface 1.0	0.1	94 356	28.7 ,	28.7	7.8	7 0 13.	9 1	75.2 13.9 81.0		5.2		17.4 7.4	+	7		76 72			<0.2	1.6
					1.0	0.4	328 82	28.7		7.8	13.	7	80.9 50.0		5.8 4.1	5.0	7.5 14.0		6 7		72 74			<0.2	1.7
IM4	Cloudy	Moderate	14:11	9.6	Middle 4.8 8.6	0.2	84 84	26.3	26.3	7.8	26.	6 -	59.4	59.2	4.1 5.1		14.8 18.6	13.5	6 26	13	75 76	819579	805032	<0.2	2 1.8 1.5
					Bottom 8.6	0.2	90	26.2	26.2	7.8	7.8	2 2	74.8	74.3	5.2	5.2	18.4	-	25		76			<0.2	0.9
					Surface 1.0 1.0	0.5	15 16	28.7	28.7	7.8	7.8 13.	9	79.0 78.9	79.0	5.7 5.7	5.0	7.7 7.8	E	6 7		72 71			<0.2	1.7
IM5	Cloudy	Moderate	14:01	8.4	Middle 4.2 4.2	0.2	88 88	26.8 26.8	26.8	7.8	7.8 23.		23.1 60.7		4.3	0.0	14.2 14.2	12.8	7	7	75 75	820553	804935	<0.2	2 1.7 1.6
					Bottom 7.4 7.4	0.2	20 20	26.2 26.3	26.3	7.8	7.8 28.		28.1 73.1		5.0 5.2	5.1	16.6 16.2	F	9		76 76			<0.2	1.4
					Surface 1.0 1.0	0.4	11	20.2	28.3	7.0	7.8	8 4	14.8 77.6 77.5	77.6	5.6 5.6		11.2		13 14		72 71			<0.2	1.5
IM6	Cloudy	Moderate	13:52	7.3	Middle 3.7	0.3	14	27.8	27.8	7.8	7.8 16.	6 1	16.7 65.1	65.0	4.7	5.2	14.0	14.3	14	16	75 74	821045	805845	<0.2	2 1.7 1.6
	,				3.7 Bottom 6.3	0.3	15 71	27.7	27.2	7.8	7 9 23.	7 2	64.9	60 0	4.7 4.8	4.8	14.2 17.6	E	15 18		75 76			<0.2	1.5
					6.3	0.4	75 46	27.2		7.8	23.	6	69.0		4.8 5.4	4.0	17.8		20 6		76 71			<0.2	1.5
					Surface 1.0	0.6	49 68	28.3	28.3	7.8	14.	2 '	73.9	74.4	5.3 4.6	5.0	11.6 16.8	F	5 14		72			<0.2	1.9
IM7	Cloudy	Moderate	13:44	8.9	Middle 4.5	0.4	72 106	27.7	27.7	7.8	17.	8 '	64.5	64.5	4.6		16.7	16.3	14	14	75 76	821352	806834	<0.2	1.6
					7.9	0.5	110	27.2	27.2	7.8	7.8 20.	3 -	20.9 67.6	07.0	4.8	4.8	20.7		22		76			<0.2	1.6
					Surface 1.0 1.0	0.5 0.5	78 84	29.2	29.2	7.9	7.9	4	78.9 78.8	78.9	5.6 5.6	5.2	9.0 9.3	E	9		70 69			<0.2	1.8
IM8	Cloudy	Moderate	14:20	9.3	Middle 4.7 4.7	0.8	77 80	28.5 28.5	28.5	7.8	7.8		16.3 68.4		4.8	J.2	12.2 12.2	12.7	12 10	10	72 71 72	821701	807823	<0.2	2 1.6 1.7
					Bottom 8.3 8.3	0.4	69 75	20.6	28.6	7.0	7.8	9 1	79.6 79.6	79.6	5.6 5.6	5.6	16.7 16.7	F	11	F	75 74			<0.2	1.8
DA: Depth-Ave	l and				0.0	J.7	,,,	20.0			10.	- 1	7.5.0		0.0						1		1		

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Qua Water Qua			lts on		27 June 17	during Mid-E	Ebb tide																				
Monitoring	Weather	Sea	Sampling	Water			Current Speed	Current	Water Ten	mperature (°C)	pl	Н	Salin	ity (ppt)		aturation %)	Dissol		Turbidity(f	NTU)	Suspended (ma/L)		otal Alkalinity (ppm)	Coordinate		Chromium (µg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling De	pth (m)	(m/s)	Direction	Value	Average	Value	Average	Value	Average	— ì	,	T T	DA	Value	DA			Value DA	HK Grid (Northing)	HK Grid (Easting)		Value DA
					Surface	1.0	0.5	73	29.1	29.1	8.0	8.0	13.1 13.1	13.1	74.2	74.2	5.3		13.2		8		69			<0.2	2.0
IM9	Cloudy	Moderate	14:28	8.5	Middle	1.0 4.3 4.3	0.5 0.5 0.5	73 91 91	29.1 28.6 28.6	28.6	7.9 7.9	7.9	16.4 16.4	16.4	74.2 67.1 67.1	67.1	5.3 4.8 4.8	5.1	13.2 19.1 19.1	16.4	9 10 10	10	70 72 73	822081	808814	<0.2 <0.2 <0.2 <0.2	2.0 2.0 2.0 1.9
					Bottom	7.5	0.3	53	28.6	28.6	7.9	7.9	18.3	18.3	73.5	73.5	5.1	5.1	16.8		13		75			<0.2	1.8
						7.5 1.0	0.3	53 78	28.6 28.6		7.9 7.8		18.3 15.1		73.5 68.1		5.1 4.9		16.8 8.8		12 11		76 71			<0.2	1.8
					Surface	1.0	0.3	83 82	28.6 28.6	28.6	7.8 7.8	7.8	15.1 15.9	15.1	68.1 64.4	68.1	4.9 4.6	4.8	8.8 12.1		10 20		71			<0.2	1.9
IM10	Cloudy	Moderate	14:35	7.6	Middle	3.8	0.5	87	28.6	28.6	7.8	7.8	15.9	15.9	64.4	64.4	4.6		12.1	12.2	19	16	74	822228	809857	<0.2	1.7
					Bottom	6.6 6.6	0.3	67 69	28.5 28.5	28.5	7.8	7.8	16.3 16.3	16.3	63.8 63.8	63.8	4.5 4.5	4.5	15.6 15.6		18 18		75 74			<0.2	1.6
					Surface	1.0	0.5 0.5	111 119	29.1 29.1	29.1	8.0	8.0	13.8 13.8	13.8	72.3 72.3	72.3	5.2 5.2		13.9 13.9	L	13 13		72 70			<0.2	1.8
IM11	Cloudy	Moderate	14:45	9.6	Middle	4.8	0.4	116	28.4	28.4	7.8	7.8	16.2	16.2	64.4	64.4	4.6	4.9	14.1	13.3	12	13	74 72	821512	810557	<0.2	2 1.9 1.0
	,					4.8 8.6	0.4	124 126	28.4		7.8 7.8		16.2 17.3		64.4 74.5		4.6 5.3		14.1 12.0	-	14 12	-	73 74			<0.2	2.0
					Bottom	8.6 1.0	0.4	135 114	28.4	28.4	7.8 8.0	7.8	17.3 13.4	17.3	74.5 71.3	74.5	5.3 5.1	5.3	12.0 12.1		12 9		75 70			<0.2 <0.2	1.8
					Surface	1.0	0.6	120	29.1	29.1	8.0	8.0	13.4	13.4	71.3	71.3	5.1	4.9	12.1		10		72			<0.2	2.1
IM12	Cloudy	Moderate	14:51	8.4	Middle	4.2 4.2	0.4	109 116	28.7 28.7	28.7	7.8	7.8	14.2	14.2	65.8 65.8	65.8	4.7	-	13.6 13.6	13.3	10	10	74 73	821146	811536	<0.2	2 1.7 1.8
					Bottom	7.4 7.4	0.3	132 143	28.4 28.4	28.4	7.8 7.8	7.8	16.7 16.7	16.7	66.6 66.6	66.6	4.7	4.7	14.1		9		75 76			<0.2 <0.2	1.7
					Surface	1.0	0.5	90	28.7	28.7	7.8	7.8	13.6	13.6	75.6	75.6	5.4		8.1		6		72			<0.2	1.8
000			45.40			1.0	0.5	93	28.7		7.8		13.6		75.6		5.4	5.4	8.1		5	_	74	004470		<0.2	1.9
SR2	Cloudy	Moderate	15:12	4.8	Middle	3.8	0.1	- 27	28.6	-	7.8	-	13.9	-	- 77.8	-	5.6		7.6	7.9	7	6	75	821478	814182	<0.2	1.9
					Bottom	3.8	0.1	27	28.6	28.6	7.8	7.8	13.9	13.9	77.8	77.8	5.6	5.6	7.6		6		76			<0.2	1.8
					Surface	1.0	0.6	99 101	29.3 29.3	29.3	7.9	7.9	11.8	11.8	77.8 77.8	77.8	5.6 5.6		11.1	-	5 6	-	-			-	-
SR3	Cloudy	Moderate	14:15	9.8	Middle	4.9 4.9	0.6	98 99	28.7 28.7	28.7	7.8 7.8	7.8	14.1 14.1	14.1	72.6 72.6	72.6	5.2 5.2	5.4	13.8 13.8	13.7	9	8	-	822135	807566		-
					Bottom	8.8	0.2	108	28.1	28.1	7.9	7.9	19.3	19.3	61.7	61.7	4.3	4.3	16.3		9		-			-	-
					Surface	8.8 1.0	0.2	114 47	28.1		7.9 7.8	7.8	19.3 13.6	13.6	61.7 82.6	82.6	4.3 5.9		16.3 10.1		10 11	+	-			-	-
					Surface	1.0 4.5	0.4	51 49	28.6 26.5	28.6	7.8 7.8		13.6 25.4		82.6 55.0		5.9 3.8	4.9	10.1 12.3		10 10		-			-	-
SR4A	Cloudy	Moderate	15:12	9.0	Middle	4.5	0.5	52	26.5	26.5	7.8	7.8	25.4	25.4	55.1	55.1	3.8		12.0	12.9	9	10	-	817184	807795		-
					Bottom	8.0	0.4	55 56	26.4 26.4	26.4	7.8	7.8	26.0 26.0	26.0	61.3 61.7	61.5	4.3	4.3	16.1 16.6	-	10 11	-	-			-	-
					Surface	1.0	0.2 0.2	11 11	28.6 28.6	28.6	7.8 7.8	7.8	15.0 15.1	15.1	79.9 79.8	79.9	5.7 5.7		11.6 11.7	_	9 10		-			-	-
SR5A	Cloudy	Moderate	15:27	5.9	Middle	-	-	-	-	_	-		-		-	_	-	5.7	-	13.1	-	11		816591	810688		
	,					4.9	0.1	76	28.1	28.2	7.7	7.7	- 17.1	17.1	82.9	83.1	5.9	5.9	14.7	-	13		-			-	-
					Bottom	4.9 1.0	0.1	78 20	28.2 28.4		7.7		17.1 14.1		83.3 79.1		5.9 5.7	5.9	14.5 10.7		11 5		-			-	
					Surface	1.0	0.2	20	28.4	28.4	7.8	7.8	14.1	14.1	79.1	79.1	5.7	5.7	10.8		7		-			-	-
SR6	Cloudy	Moderate	15:48	5.0	Middle	-	-	-	-	-	-	-	-		-	-	-	-	-	12.0	-	8	-	817910	814649		-
					Bottom	4.0	0.1	55 58	28.3 28.3	28.3	7.8 7.8	7.8	15.6 15.6	15.6	86.0 86.4	86.2	6.1	6.2	13.4	F	10 9		-			-	-
		1			Surface	1.0	8.0	90	29.2	29.2	7.9	7.9	14.1	14.1	78.7	78.7	5.6		6.2		4		-	ĺ		-	-
SR7	Claude	Madazat-	15.50	16.7		1.0 8.4	0.8	97 125	29.2 27.9		7.9 7.8		14.1 18.3		78.7 69.7		5.6 4.9	5.3	6.2	7.0	3	,	-	900645	823751	-	-
587	Cloudy	Moderate	15:58	16.7	Middle	8.4 15.7	0.1	130 137	27.9 26.7	27.9	7.8 7.8	7.8	18.3 21.3	18.3	69.7 64.3	69.7	4.9 4.6		6.6 8.2	7.0	4	4	-	823645	823/51		-
					Bottom	15.7	0.8	149	26.7	26.7	7.8	7.8	21.3	21.3	64.3	64.3	4.6	4.6	8.2		5		-	<u> </u>	<u> </u>		
					Surface	1.0	0.6	111 116	29.4 29.4	29.4	7.8	7.8	12.1 12.1	12.1	72.5 72.5	72.5	5.2 5.2	-	10.7	ŀ	10 9	+	-			-	-
SR8	Cloudy	Moderate	15:01	5.2	Middle	-	-	-	-	-	-	-	-		-	-	-	5.2	-	12.2	-	10	-	820406	811592	-	
					Bottom	4.2	0.2	115	28.6	28.6	7.8	7.8	15.9	15.9	67.9	67.9	4.8	4.8	13.7	E	10	E	-			-	-
DA: Denth-Ave					Dottom	4.2	0.2	116	28.6	20.0	7.8	7.0	15.9	10.0	67.9	07.5	4.8	7.0	13.7		11		-			-	

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined: Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Qua			lts on		29 June 17	during Mid-l	Flood Tie	de																	
Monitoring	Weather	Sea	Sampling	Water	0 5 5		Current Speed	Current	Water Te	emperature (°C)	pН	Sali	nity (ppt)		aturation %)	Disso		dity(NTL	Suspended (mg/L		Total Alkalinity (ppm)	Coordinate		Chromium (µg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling De	eptn (m)	(m/s)	Direction	Value	Average	Value Averag	e Value	Average	Value	Average	Value	DA Valu	e D/	A Value	DA	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	A Value DA
					Surface	1.0	0.3	54	28.6	28.6	7.7 7.7	11.7		73.8	73.8	5.4	7.4		7		73			<0.2	2.1
C1	Cloudy	Moderate	09:37	6.5	Middle	1.0	0.3 0.4	55 27	28.6 28.0	28.0	7.7	11.7 15.1	15.1	73.8 73.4	73.5	5.4 5.3	5.4 7.4	10	6 8	8	73 76 75	815605	804255	<0.2	2.2
01	Cloudy	Wioderate	03.07	0.5		3.3 5.5	0.4	28 7	28.0 28.0		7.8	15.1 20.2		73.5 84.4		5.3 5.9	12.2	!	10		76 77	013003	004255	<0.2	2.4
					Bottom	5.5	0.3	7	28.1	28.1	7.8	20.0	20.1	85.1	84.8	6.0	11.2		11		77			<0.2	2.4
					Surface	1.0	0.3	304 327	29.0 29.0	29.0	7.7 7.7	10.3		68.6 68.6	68.6	5.0	4.7		8		70 70			<0.2 <0.2	2.4
C2	Cloudy	Moderate	11:05	11.3	Middle	5.7 5.7	0.3	320 333	28.6 28.6	28.6	7.8 7.8	17.0		60.9 60.9	60.9	4.3	8.6 8.6		7 8 10	9	74 74	825681	806940	<0.2	2 2.2 2.1
					Bottom	10.3	0.7	3	27.9	27.9	7.8	20.0	20.0	62.9	62.9	4.4	9.2		8		77			<0.2	1.8
					Surface	10.3	0.7	3 266	27.9 28.4	28.4	7.8	20.0		62.9 67.4	67.4	4.4	9.2		10 5		72			<0.2 <0.2	1.6
						1.0 6.3	0.5	280 243	28.4 27.8		7.8	13.6		67.4 63.7		4.9 4.5	4.7		6 7		73 76 ₇₅			<0.2	2.4
C3	Cloudy	Moderate	09:06	12.6	Middle	6.3	0.3	263	27.8	27.8	7.9	18.3	10.3	63.7	63.7	4.5	7.7	7.6	8	8	76	822092	817790	<0.2	2.1
					Bottom	11.6 11.6	0.3	2	26.8 26.8	26.8	7.9 7.9	24.1		64.2 64.2	64.2	4.5 4.5	4.5 7.5 7.5		12 11		77 78			<0.2 <0.2	1.8
					Surface	1.0	0.6 0.7	2	28.1 28.1	28.1	7.8 7.8	17.3 17.3		67.7 67.6	67.7	4.8	7.9		8		73 74			<0.2	2.0
IM1	Cloudy	Moderate	09:48	7.7	Middle	3.9	0.6	8	27.7	27.7	7.8	18.1	18.1	69.3	69.4	4.9	9.4		8	10	75 ₇₅	818357	806472	<0.2	2.2 2.1 2.1
					Bottom	3.9 6.7	0.6	8 350	27.7 27.7	27.7	7.8 7.8 7.8 7.8	18.1	20.0	69.5 79.0	79.4	5.0 5.6	5.6 9.5		8 13		75 77			<0.2	2.2
						6.7 1.0	0.3	322 355	27.7 27.9		7.8	20.0		79.7 64.5		5.6 4.6	9.4		14		77 75			<0.2	1.7
					Surface	1.0	0.8	327	27.9	27.9	7.8	18.2	10.2	64.4	64.5	4.6	4.5 8.4		8		75 76			<0.2	1.9
IM2	Cloudy	Moderate	09:59	8.5	Middle	4.3	0.6	16 16	26.9 27.1	27.0	7.8 7.8	22.8	22.8	63.1 64.9	64.0	4.4	9.8	9.7	10	11	76	818842	806185	<0.2	1.6
					Bottom	7.5 7.5	0.3	11	27.0 27.0	27.0	7.8 7.8	23.6		75.7 76.4	76.1	5.3 5.3	5.3 9.6		15 12		77 77			<0.2	1.1
					Surface	1.0	0.7	347	27.8 27.8	27.8	7.8 7.8	18.7		63.7 63.7	63.7	4.5 4.5	8.1		9		75 75			<0.2	1.5
IM3	Cloudy	Moderate	10:05	7.2	Middle	1.0 3.6	0.8	353 337	27.2	27.2	7.8	21.6	21.6	64.1	64.1	4.7	9.3	۵.	10	10	76 70	819422	806026	<0.2	0 1.4
	Cidday	modorato	10.00			3.6 6.2	0.4	359 6	27.2 26.5		7.8	21.6		64.1 69.4		4.7 4.8	9.4		10		76 77	010122	000020	<0.2	1.5
					Bottom	6.2	0.4	6 22	26.5 27.6	26.5	7.8	25.7 19.5	25.7	70.0 64.3	69.7	4.9	4.9 10.2	!	12		77 75			<0.2	1.4
					Surface	1.0	0.3	23	27.6	27.6	7.8	19.6	19.0	64.0	64.2	4.5	4 E 8.3		8		75			<0.2	1.6
IM4	Cloudy	Moderate	10:15	7.4	Middle	3.7	0.3	20 21	26.9 26.9	26.9	7.8 7.8	22.9		64.2 64.4	64.3	4.5 4.5	9.4		0 10	10	76 76	819571	805022	<0.2	2 1.5 1.4
					Bottom	6.4	0.3	30 32	27.0 27.0	27.0	7.8 7.8	23.2		77.8 77.8	77.8	5.5 5.4	5.5 9.1		12 12		77 77			<0.2	1.2
					Surface	1.0	0.2	345	28.3	28.3	7.8	14.2	14.2	71.9	71.9	5.2	7.4		8		73			<0.2	2.4
IM5	Olevetic	Madaata	10.07	7.0		1.0 3.7	0.2	317 346	28.3 28.0		7.8	14.4		71.9 69.4	69.4	5.2 4.9	5.1 7.5		8 8	9	74 75 75	820552	804929	<0.2	2.4 2.3 2.2
CIVIS	Cloudy	Moderate	10:27	7.3	Middle	3.7 6.3	0.5 0.4	353 355	28.0 26.2	28.0	7.9 7.9 7.8	17.7 26.3		69.4 72.5		4.9 5.1	10.0		9 10	9	75 77	620552	004929	<0.2 <0.2 <0.2	2.1
					Bottom	6.3	0.4	327	26.2	26.2	7.8	26.3	26.3	73.2	72.9	5.1	10.8		10		78			<0.2	2.0
					Surface	1.0	0.5	328 328	28.5 28.5	28.5	7.8 7.8	12.7		73.0 72.7	72.9	5.3 5.3	5.2		8		75 75			<0.2	2.1
IM6	Cloudy	Moderate	10:37	7.4	Middle	3.7 3.7	0.7 0.8	341 314	28.3 28.3	28.3	7.9 7.9	17.2 17.2		70.7 70.7	70.7	5.0 5.0	7.0	11.	.0 8	11	76 76	821078	805813	<0.2	2 1.9 1.8
					Bottom	6.4	0.4	358	26.7	26.7	7.9	24.7	24.0	70.1	70.4	4.9	18.7		16		77			<0.2	1.3
					Surface	6.4 1.0	0.5	329 319	26.7 28.5	28.5	7.7	24.9 10.2	10.2	70.7 71.9	71.9	4.9 5.3	4.5 18.8 7.7		16 6		77 75			<0.2 <0.2	1.3 2.0
						1.0 3.8	0.3 0.4	343 9	28.5 28.2		7.7	10.1 15.2		71.8 69.8		5.3 5.0	5.2 7.7	_	6 6		75 76 76			<0.2	2.0
IM7	Cloudy	Moderate	10:46	7.6	Middle	3.8	0.5	9	28.2	28.2	7.8	15.2	13.2	69.8	69.8	5.0	9.7	10.	6	7	76	821365	806842	<0.2	1.9
					Bottom	6.6 6.6	0.5 0.6	41 42	27.2 27.2	27.2	7.8 7.8	21.1		68.6 68.8	68.7	4.8	4.9 12.7		8		77 77			<0.2	2.2
					Surface	1.0	0.2	274 274	28.8	28.8	7.7 7.7	8.3 8.3		68.2 68.2	68.2	5.0 5.0	10.1		6 7		70 71			<0.2 <0.2	2.2
IM8	Cloudy	Moderate	10:33	8.4	Middle	4.2	0.2	241	28.5	28.5	7.8	11.0	11.0	65.1	65.1	4.8	4.9	11	. 8	7	73	821693	807853	<0.2	2.2
	,			-	Bottom	4.2 7.4	0.2	244 113	28.5 27.8	27.8	7.8	11.0	100	65.1 69.9	69.9	4.8 4.9	4.9		7 8	ŀ	73 75			<0.2	2.1
DA: Denth-Ave					Bottom	7.4	0.2	120	27.8	27.8	7.8	18.9		69.9	69.9	4.9	4.9		8		76			<0.2	2.1

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

Water Quality Monitoring Results on 29 June 17 during Mid-Flood Tide DO Saturation Dissolved Suspended Solids Total Alkalinity Chromium Sampling Water Water Temperature (°C) Salinity (ppt) Turbidity(NTU) Coordinate Coordinate Nickel (µg/L) Monitorina Current Oxygen (ppm) Speed (ma/L) Sampling Depth (m) HK Grid HK Grid Station Direction DA DA DA Condition Condition Time Depth (m) (m/s) Value Average Value Average Value Average Value Value Value Value (Northing) (Easting) Value DA Value DA 0.2 29 1 10.2 1.0 266 9.0 -02 Surface 29.1 72.0 73 2.2 1.0 0.2 292 29 1 9.0 72 N 5.3 10.2 5 -02 3.8 0.3 300 29.0 7.8 10.6 67.9 4.9 12.7 6 75 < 0.2 1.9 IM9 10:25 7.5 Middle 7.8 10.6 67.9 12.4 75 822108 808810 2.0 Cloudy Moderate 3.8 0.3 320 29.0 7.8 10.6 67.0 4.9 12.7 74 <0.2 2.0 6.5 0.4 291 28.6 7.8 14.5 14.4 10 77 <0.2 1.8 7.8 14.5 64.9 4.6 Rottom 28.6 0.4 293 28.6 7.8 14.5 64.9 4.6 14.4 <0.2 1.9 1.0 7.8 0.3 308 29.2 10.4 5.1 9.8 6 71 <0.2 2.0 71.1 Surface 29.2 7.8 10.4 71.1 7.8 10.4 5.1 72 2.0 1.0 0.3 311 29.2 9.8 6 <0.2 74 4.1 0.6 315 29.1 7.8 66.8 4.8 10.2 <0.2 2.0 IM10 Cloudy Moderate 10:15 8.1 Middle 29.1 7.8 12.8 66.8 12.2 74 822223 809847 1.9 66.8 10.2 74 4.1 0.6 343 29.1 7.8 12.8 4.8 6 < 0.2 1.9 7.1 0.4 282 28.0 7.9 4.7 16.5 75 <0.2 1.7 7.9 17.1 66.5 Bottom 28.0 7.1 0.4 302 28.0 7.9 17.1 4.7 16.5 75 1.8 0.3 293 9.4 71 2.2 28.7 7.8 5.2 < 0.2 Surface 28.7 7.8 11.1 71.5 1.0 0.3 311 7.8 71.5 5.2 9.4 72 2.3 28.7 < 0.2 75 74 4.1 0.5 288 28.6 7.9 12.8 69.1 5.0 11.9 6 < 0.2 2.2 821512 810563 IM11 Cloudy Moderate 10:05 8.1 Middle 28.6 7.9 12.8 69.1 11.5 2.2 5.0 4.1 0.5 303 28.6 7.9 12.8 69.1 11.9 < 0.2 2.1 77 77 7 1 0.3 306 27.5 7.9 19.9 63.8 4.5 13.3 <0.2 2.0 Bottom 27.5 7.9 19.9 63.8 4.5 7 1 0.3 326 27.5 79 199 63.8 4.5 13.3 8 <0.2 2.3 1.0 0.3 285 28.8 7.8 72 <0.2 2.3 10.7 9.1 6 10.7 69.7 Surface 28.8 7.8 7.8 69.7 5.1 71 2.5 1.0 0.4 293 28.8 9.1 <0.2 2.3 75 3.6 0.7 276 28.5 7.8 11.9 66.1 4.8 9.6 <0.2 11.9 66.1 821146 IM12 Cloudy Moderate 09:56 7.1 Middle 28.5 7.8 811516 22 7.8 66.1 4.8 74 <0.2 3.6 0.7 287 28.5 11.9 9.6 6 75 6.1 0.4 262 27.8 7.9 18.0 67.2 4.8 10.5 8 <0.2 2.0 Bottom 7.9 18.0 67.2 4.8 6.1 0.4 263 27.8 79 18.0 67.2 4.8 10.5 8 77 <0.2 21 1.0 0.1 244 28.6 9.8 7.8 69.5 <0.2 2.2 Surface 28.6 7.8 11.7 69.5 1.0 0.1 7.8 11.7 5.1 5 72 2.3 249 28.6 9.8 <0.2 4.5 821469 814178 SR2 Cloudy Moderate 09:29 Middle 22 5.1 76 21 3.5 0.1 251 28.5 13.0 70.3 9.7 <0.2 Bottom 28.5 7.8 13.0 70.7 5.1 13.0 3.5 271 7.8 5.1 75 0.1 9.6 28.5 6 -02 2 1 1.0 0.3 283 29.0 7.7 10.9 67.5 4.9 9.1 5 Surface 29.0 7.7 10.9 67.5 1.0 0.3 290 29.0 77 10.8 67.4 4.9 9.2 4.6 0.3 318 28.8 7.8 4.7 9.6 13.1 SR3 10:42 Middle 28.8 7.8 13.1 65.2 10.8 822149 807551 Moderate 91 6 Cloudy 4.6 0.3 342 28.8 7.8 13.1 65.2 4.7 9.6 8.1 0.7 309 7.8 28.4 17.6 60.0 4.2 13.5 4.2 17.6 60.0 Bottom 28.4 7.8 60.0 4.2 7.8 17.6 13.5 8.1 0.7 309 28.4 1.0 0.3 244 28.1 7.8 5.3 13.6 11 Surface 7.8 17.6 75.3 75.2 5.3 13.7 1.0 0.3 261 28.1 7.8 176 10 4.2 0.3 239 27.7 7.8 5.0 16.7 11 SR4A 09:15 27.7 7.8 19.3 70.7 15.3 817187 807799 Cloudy Moderate 8.4 Middle 4.2 0.3 247 27.7 7.8 19.3 70.6 5.0 16.8 13 0.2 262 27.0 7.8 15.3 20 24.5 76.8 5.3 27.1 24.5 77.2 Bottom 7.8 5.4 7.4 0.2 274 27.1 7.8 77.5 5.4 15.4 20 24.5 1.0 0.2 266 28.1 7.8 18.3 71.6 5.1 12.8 11 Surface 28.1 7.8 18.3 71.6 1.0 7.8 11 0.2 288 28.1 18.3 71.6 5.1 12.9 SR5A Cloudy 08:58 5.6 Middle 816602 810705 Moderate 11 4.6 0.1 303 27.5 15.8 12 7.8 20.2 5.2 27.5 7.8 20.2 73.7 5.2 Bottom 7.8 73.9 5.2 4.6 0.1 303 27.5 20.2 15.9 1.0 0.2 261 28.4 14.2 5.5 6.8 7.7 14.2 76.8 Surface 28.4 7.7 76.8 5.5 14.2 1.0 0.2 282 28.4 6.8 6 SR6 08:33 4.2 Middle 817884 814677 Cloudy Moderate 0.0 199 28.4 6.8 5.5 28.4 7.7 14.1 75.7 5.5 Bottom 3.2 14.0 75.0 5.4 6.8 0.0 206 28.4 0.0 28.6 7.9 13.4 5.4 Surface 28.6 7.9 13.4 74.6 1.0 0.0 63 28.6 7.9 13.4 74.6 5.4 7.1 6.4 8.2 0.3 188 27.2 79 21.4 69.1 5.0 6 SR7 Cloudy Moderate 08:34 16.4 Middle 27.2 7.9 21.4 69.1 6.6 823644 823739 8.2 79 21.4 5.0 0.3 206 27.2 69 1 6.4 6 15.4 1.2 204 25.1 7.9 29.6 50.1 3.5 6.2 Bottom 25.1 7.9 29.6 50.1 3.5 15.4 1.3 224 25.1 7.9 29.6 50.1 3.5 6.2 1.0 0.1 271 29.0 7.9 10.8 10.8 7.9 10.8 72.5 Surface 29.0 72.5 1.0 0.1 284 29.0 7.9 10.8 5.3 10.8 5.3 SR8 Cloudy Moderate 09:48 5.1 Middle 12.3 820427 811592 7.9 7.9 5.0 5.0 4.1 0.1 28.2 13.7 28.2 7.9 15.8 69.8 69.8 4.1 0.1 100 28.2 9

DA: Depth-Averaged

Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher

Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring Water Quality Monitoring Results on 29 June 17 during

Water Qua Water Qua			Its on		29 June 17 during Mic	-Ebb tide																			
Monitoring	Weather	Sea	Sampling	Water	<u> </u>	Current Speed	Current	Water Tempe	perature (°C)	рН	S	Salinity	y (ppt)	O Saturatio		solved vaen	Turbidity(NTU)	Suspended (ma/l		Total Alkalinit	Coordinate		Chromium (µg/L)	Nickel (μg/L)
Station	Condition	Condition	Time	Depth (m)	Sampling Depth (m)	(m/s)	Direction	Value	Average	Value Av	erage Va	lue A	Average Val	(70)		7.	Value	DA	Value	DA DA	Value DA	HK Grid (Northing)	HK Grid (Easting)	Value DA	Value DA
					Surface 1.0 1.0	0.2	213 224	28.5 28.5	28.5	7.9		1.7	14.7		5.4 5.3	İ	13.2 13.1		11		73 74			<0.2	2.1
C1	Fine	Moderate	16:43	8.1	Middle 4.1	0.1	70	26.6	26.6	7.9	7 9 24	1.8	24.8 58.	.5 58.4	4.1	4.7	13.2	14.1	10	10	75 75	815612	804243	<0.2	2.2
01	1 1110	Woderate	10.40	0.1	4.1	0.1	73 134	26.6 25.5		7.9	24	1.8	58.	.3	4.1		13.5 15.6	-	10	10	75 77	013012	004240	<0.2	2.2
					Bottom 7.1	0.1	143	25.5	25.5	7.9	7.9	9.9	29.9	.8	4.2	4.2	15.8		10		77			<0.2	2.1
					Surface 1.0 1.0	0.1	45 48	29.0 29.0	29.0	7.8	1.0	2.4	12.4 70.	.1	5.0	46	9.0 9.0		8 6		71 73			<0.2	2.6
C2	Cloudy	Moderate	15:28	12.1	Middle 6.1 6.1	0.1	306 323	27.9 27.9	27.9	7.8		3.2	18.2 58	.9 58.9	4.2		12.6 12.6	12.3	8	10	75 76 75	825671	806955	<0.2	2 2.8 2.5
					Bottom 11.1 11.1	0.1	249 264	26.4 26.4	26.4	7.8		1.7	24.7 52	.0 52.0	3.6		15.4 15.4		14 13		78 77			<0.2	2.1
					Surface 1.0 1.0	0.4	86 87	29.3 29.3	29.3	7.9 7.9		5.2	15.2		5.5 5.5		6.3 6.3	-	5		73 72			<0.2 <0.2	2.4
C3	Cloudy	Moderate	17:15	12.9	Middle 6.5	0.2	78	27.4	27.4	7.9	7 9 21	.4	21.4 66	.9 66.9	4.7		5.1	5.6	8	6	75 75	822093	817784	<0.2	2 1.9
					6.5 Bottom 11.9	0.2	78 14	27.4 25.5	25.5	7.9 7.9	7.9 28	3.9	28.9 69	.3 60.2	4.7	4.8	5.4		6 6		76 78			<0.2	2.0
					11.9	0.1	15 139	25.5 28.4	28.4	7.9	28	1.6	14.9	.3	4.8 5.6		5.4 6.7		6		78 73			<0.2	1.3
	_				Surface 1.0 4.1	0.0	147 90	28.4 25.8		7.9	15	5.2 3.2	/8	.6	5.6 3.8		6.8 11.8		8		74 75			<0.2	2.0
IM1	Fine	Moderate	16:14	8.2	Middle 4.1 7.2	0.2	93 102	25.8 25.8	25.8	7.9	7.9 28	3.2 3.5	28.2 55	.4 55.3	3.8		11.8	10.8	9	8	76 76 77	818350	806445	<0.2 <0.2 <0.2	2 2.0 2.0 2.0
					Bottom 7.2	0.1	103	25.8	25.8	7.9	7.9	3.5	28.5 73	.2 /3.0	5.1	5.1	13.7		9		77			<0.2	2.1
					Surface 1.0 1.0	0.1	216 236	28.6 28.6	28.6	7.9	7.9	l.5 l.5	14.5	.8 /4.0	5.3	4.0	8.7 8.9		6 7		75 75			<0.2 <0.2	2.2
IM2	Fine	Moderate	16:08	7.8	Middle 3.9 3.9	0.2	82 87	26.1 26.2	26.2	7.8		6.9 6.8	26.9 62		4.4		13.5 13.4	12.5	9	8	76 76	818867	806179	<0.2	2 2.2 2.3
					Bottom 6.8 6.8	0.2	80 80	26.1 26.1	26.1	7.9		7.1 7.1	27.1		5.7 5.7	5.7	15.2 15.4	F	8		77 78			<0.2	2.4
					Surface 1.0 1.0	0.2	286 314	28.9 28.9	28.9	7.0	7 a 12	2.3	12.3 79.	.8 79.7	5.8	7	9.2	-	7 7		73 74			<0.2	2.2
IM3	Fine	Moderate	15:59	7.5	Middle 3.8	0.3	58	26.1	26.1	7.8	7 0 27	7.2	27.2 50.	.9 51.1	3.5		11.6	12.2	8	7	75 ₇₅	819397	806036	<0.2	2.2
					3.8 Bottom 6.5	0.3	63 78	26.1 26.1	26.1	7.8 7.8	7 0 27		27.3 56.	.7 56.8	3.6	4.0	11.6 15.8		6 7		75 77			<0.2	2.3
					6.5 Surface 1.0	0.2	82 328	26.1 28.4	28.4	7.8	7.0 13	3.3	12.2 74	.8 74.7	4.0 5.4		15.6 7.0		7		78 74			<0.2	2.2
	_				1.0	0.2	343 68	28.4 26.2		7.9	13	3.3 3.4	74. 54	.6	5.4 3.8		7.1 14.3		7 6	_	74 75			<0.2	2.3
IM4	Fine	Moderate	15:50	7.6	Middle 3.8 6.6	0.3	74 64	26.2 26.0	26.2	7.9	7.9 26	3.4	26.4 54	.9 54.9	3.8		14.4	12.6	6	7	75 75 77	819555	805025	<0.2 <0.2 <0.2	2 2.3 2.3
					Bottom 6.6	0.1	64	26.0	26.0	7.8	7.8 27	7.5	27.5	.0	4.4	4.4	16.2		8		77			<0.2	2.4
					Surface 1.0 1.0	0.3	11 11	28.3 28.3	28.3	7.9	7.9	1.6	14.2 75	.5 /5./	5.5 5.4	5.0	8.0		10 9		74 74			<0.2	2.3
IM5	Fine	Moderate	15:39	7.4	Middle 3.7 3.7	0.3	57 60	26.9 26.9	26.9	7.8		2.9 3.0	23.0 63		4.4	- 0.0	12.0 12.0	12.5	9 10	10	75 75	820564	804915	<0.2	2 2.5 2.4
					Bottom 6.4 6.4	0.1	30 30	26.1 26.1	26.1	7.8		'.0 '.0	27.0 73		5.1 5.1	5.1	17.4 17.4	F	10 10		77 77			<0.2	2.5
					Surface 1.0 1.0	0.1	95 96	29.4 29.4	29.4	7.0	70 11	.6	11.6	.7	6.0	7	5.9		12		73 74			<0.2	2.7
IM6	Fine	Moderate	15:30	7.4	Middle 3.7	0.2	61	27.1	27.2	7.9	7 9 22	2.9	22.6 60.	.3 60.3	4.2	5.1	13.1	11.8	12	12	75 76	821076	805840	<0.2	2.6
					3.7 Bottom 6.4	0.2	64 63	27.2 26.4	26.4	7.9	7 0 25	2.2 5.5	60. 25.5	.5 66 9	4.2	4.7	13.3 16.2	L	12 12		76 77			<0.2	3.6
					6.4 Surface 1.0	0.3	68 63	26.4 28.5	28.6	7.8	25	i.5	14.7	.0	4.7 5.2		16.1 7.5		14 9		78 73			<0.2	3.8 2.4
					1.0	0.5 0.4	69 28	28.6 27.5		7.8	7.8	1.7	72	.0 /2.1	5.2 4.6	4.0	7.5 9.6	F	10 8		73			<0.2	2.5
IM7	Fine	Moderate	15:20	8.5	Middle 4.3	0.4	28 51	27.5 27.6	27.5	7.9	7.9	9.9	19.9 65	.7	4.6		9.6 8.6	8.6	10	9	76 77	821330	806823	<0.2 <0.2 <0.2	2 2.4 2.3
					7.5	0.4	55	27.6	27.6	7.9	7.9 21		21.7 78	.4	5.5 5.6	3.0	8.7		8		77			<0.2	2.1
					Surface 1.0 1.0	0.4	55 55	28.9 28.9	28.9	7.9	7.9	3.3	13.3	.6	5.1		10.2 10.2	-	8		71 72			<0.2 <0.2	2.0
IM8	Cloudy	Moderate	16:01	9.1	Middle 4.6 4.6	0.3	56 57	28.0 28.0	28.0	7.9		7.7	17.7		4.7	4.3	11.9 11.9	11.1	6 8	8	74 75	821711	807827	<0.2	2 2.1 1.9
					Bottom 8.1	0.2	65 68	28.0 28.0	28.0	7.0		.2	21.2 76	.4 76.4	5.3		11.1	þ	9		77 78			<0.2	1.4
DA: Depth-Ave					0.1	٥.٤		20.0		1.0	21	.4	1 / 0.	- < 1	J.3	1	111.1		- 11		, , ,	1	1	\U.L	1.0

DA: Depth-Averaged
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher
Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

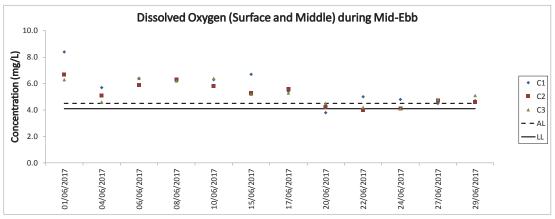
Expansion of Hong Kong International Airport into a Three-Runway System Water Quality Monitoring

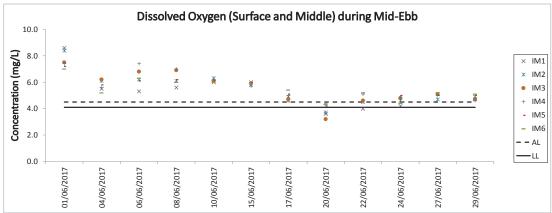
Water Qua Water Qua		oring oring Resu	Its on		29 June 17	during Mid-	Ebb tide																				
Monitoring	Weather	Sea	Sampling	Water		-	Current Speed	Current	Water Ten	nperature (°C)	рН		Salinity	y (ppt)		turation %)	Disso		Turbidity(NTU)	uspended Soli (mg/L)	ids Total Al	lkalinity om)	Coordinate	Coordinate	Chromiun (µg/L)	m Nickel (μg
Station	Condition	Condition	Time	Depth (m)	Sampling De	epth (m)	(m/s)	Direction	Value	Average	Value Av	verage V	alue A	Average	-	, -,	Value	DA	Value	DA	Value DA			HK Grid (Northing)	HK Grid (Easting)	Value D/	A Value D
					Surface	1.0	0.5 0.6	81 88	30.0 30.0	30.0	7.9 7.9		11.5	11.5	78.5 78.5	78.5	5.6 5.6		9.6 9.6		9	70 71				<0.2 <0.2	2.1
IM9	Cloudy	Moderate	16:08	8.5	Middle	4.3	0.4	67	28.2	28.2	7.9	79 1	17.3		66.3	66.3	4.7	5.2	10.2	11.8	9 10	75	74	822095	808814	<0.2	1.8
	,					4.3 7.5	0.4	67 82	28.2 27.9		7.9		17.3		66.3 75.6		4.7 5.3		10.2 15.5	-	9 11	75 77	1			<0.2	1.9
					Bottom	7.5	0.4	88	27.9	27.9	7.9	7.9	21.3		75.6	75.6	5.3	5.3	15.5		10	77				<0.2	1.6
					Surface	1.0	0.6	85 89	29.1 29.1	29.1	7.8	7.8	12.5	12.5	69.1 69.1	69.1	5.0 5.0	4.8	9.8 9.8		9	70 71]			<0.2	2.4
IM10	Cloudy	Moderate	16:15	8.2	Middle	4.1	0.5	105 112	28.4 28.4	28.4	7.8		14.9		63.2 63.2	63.2	4.5 4.5	4.0	11.4 11.4	10.9	8 9	73 74	73	822245	809831	<0.2	0.2 2.3 2
					Bottom	7.2 7.2	0.4	137 142	28.3 28.3	28.3	7.8		17.2 17.2		65.4 65.4	65.4	4.6 4.6	4.6	11.4 11.4		8 10	75 76				<0.2	2.2
					Surface	1.0	0.4	106	29.5	29.5	7.0	70 1	12.3	12.2	74.1 74.1	74.1	5.3		10.4		9	71 72				<0.2	2.4
IM11	Cloudy	Moderate	16:26	9.4	Middle	1.0 4.7	0.5	110	28.3	28.3	7.9	79	14.7	14.7	64.7	64.7	4.6	5.0	10.4 13.1	12.3	9 10	75	74	821481	810526	<0.2	2.4
	Oloddy	Moderate	10.20	0.1		4.7 8.4	0.5	114 104	28.3 28.2		7.9		14.7		73.5		4.6 5.2		13.1	-	12	75 77	- '	021101	0.0020	<0.2	2.2
					Bottom	8.4	0.2	107	28.2	28.2	7.8	7.8	19.3	19.3	73.5	73.5	5.2	5.2	13.3		12 10	76				<0.2	1.8
					Surface	1.0	0.6	103 111	29.4 29.4	29.4	7.9	7.9	12.5	12.5	73.6 73.6	73.6	5.2	4.8	9.6 9.6		10	72 72				<0.2 <0.2	2.3
IM12	Cloudy	Moderate	16:32	8.2	Middle	4.1	0.5	104 108	28.3 28.3	28.3	7.9		16.9 16.9		61.8	61.8	4.4		12.6 12.6	12.7	9 11	73 74	74	821152	811515	<0.2	1.8
					Bottom	7.2 7.2	0.1	43 45	27.3 27.3	27.3	7.0	70 2	21.7	21.7	60.3	60.3	4.2	4.2	15.9 15.9		12 13	75 77				<0.2	1.7
					Surface	1.0	0.5	98	29.7	29.7	8.0	8.0	12.9	12.9	84.2	84.2	6.0		7.2		7	71				<0.2	2.2
SR2	Cloudy	Moderate	16:57	4.7	Middle	1.0	0.5	104	29.7		8.0	1	12.9		84.2		6.0	6.0	7.2	7.2	7 - 7	72	74	821456	814158	<0.2	2.2
SHZ	Cioudy	Wioderate	10.57	4.7		3.7	0.3	92	29.0		7.9		15.3	-	81.9		5.8		7.2	1.2	6	77	/4	021430	014130	<0.2	2.0
					Bottom	3.7	0.4	100	29.0	29.0	7.9	1.5	15.3		81.9	81.9	5.8	5.8	7.2		6	75				<0.2	2.1
					Surface	1.0	0.3	54 54	29.1 29.1	29.1	7.9	7.9	13.7	13.7	72.2 72.0	72.1	5.1 5.1	4.9	9.6 9.6		8	-]			-	-
SR3	Cloudy	Moderate	15:55	9.6	Middle	4.8	0.3	46 49	28.4 28.4	28.4	7.9		15.7 15.7		66.2 66.2	66.2	4.7	4.5	11.7 11.7	11.5	7 9	-	-	822164	807569	-	
					Bottom	8.6 8.6	0.2	63 67	27.7	27.7	7.0	70 2	20.2	20.2	61.4	61.4	4.3	4.3	13.3		10	-				-	-
					Surface	1.0	0.3	80	28.0	28.1	7.9	79 1	17.9	17.8	68.7	68.3	4.9		13.7		7	-				-	-
0044	-		17.10	7.0		1.0 4.0	0.3	87 68	28.1 26.5		7.9	1	17.6 24.1		67.9 67.6		4.8	4.8	13.5 14.4		8 8	-		0.47407		-	-
SR4A	Fine	Moderate	17:13	7.9	Middle	4.0 6.9	0.4	68 79	26.5 26.4	26.5	7.9	7.9	24.2 27.3	24.2	68.0 84.7	67.8	4.8 5.9		14.5 16.2	14.8	7 8	-	1 - 1	817197	807826	-	
					Bottom	6.9	0.4	79	26.4	26.4	7.9	7.9	27.2	27.3	85.9	85.3	5.9	5.9	16.2		8	-				-	-
					Surface	1.0	0.2	108 116	29.0 29.0	29.0	8.0		15.5		89.8 89.7	89.8	6.3	6.3	9.1 9.2	-	11	-				-	-
SR5A	Fine	Moderate	17:30	5.3	Middle	-	-	-	-	-	-		-	-	-	-	-	6.3	-	9.3	- 11	-	-	816584	810679	-	
					Bottom	4.3	0.3	118	28.7	28.7	8.0		17.6		94.6	94.6	6.6	6.6	9.4		11	-				-	-
					Surface	1.0	0.4	126 31	28.7 28.6	28.6	8.0 7.9	7.0	17.6 15.2	15.2	94.6 82.4	82.4	6.6 5.9		9.4 13.0		11	-				-	-
						1.0	0.0	33	28.6		7.9	1	15.2	13.2	82.4	02.4	5.9	5.9	13.1		11	-				-	-
SR6	Fine	Moderate	17:52	4.5	Middle	-	-	-	-	-	-	-	-	-	-	-	,		-	12.9	- "	-	-	817908	814663	-	-
					Bottom	3.5 3.5	0.1	42 42	28.4 28.4	28.4	7.9	7.9	15.6 15.6	15.6	86.4 86.7	86.6	6.2	6.2	12.6 12.7		10 10	-				-	-
					Surface	1.0	0.4	58 58	29.3 29.3	29.3	8.0		16.5 16.5		84.8 84.8	84.8	5.9	F	5.7 5.7		8	-	1 7			-	-
SR7	Cloudy	Moderate	17:47	16.5	Middle	8.3 8.3	0.2	351 323	28.9	28.9	0.0	o n 1	17.6 17.6	17.6	78.3 78.3	78.3	5.5	5.7	6.2	6.0	7 7	-	1 -	823631	823751		
					Bottom	15.5	8.0	134	26.2	26.2	7.9	70 2	28.7	20.7	73.1	73.1	5.0	5.0	6.0		7	-	1			-	-
						15.5 1.0	0.9	140 269	26.2 29.5		7.9		13.2		73.1 76.1		5.0 5.4	5.5	6.0 8.4		6	-		1		-	-
					Surface	1.0	0.1	275	29.5	29.5	8.0		13.2		76.1	76.1	5.4	5.4	8.4		5	-	1			-	-
SR8	Cloudy	Moderate	16:43	5.4	Middle	-	-		-	-	-	-	-	-	-	-			-	9.8	- 6		-	820409	811593		
					Bottom	4.4	0.1	229 231	28.0 28.0	28.0	7.9		17.4 17.4	17.4	70.9 70.9	70.9	5.0	5.0	11.1		6	-				-	-
A: Depth-Ave	oaad	1	1		1				,																		

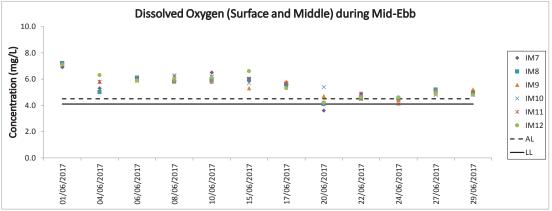
DA: Depth-Averaged

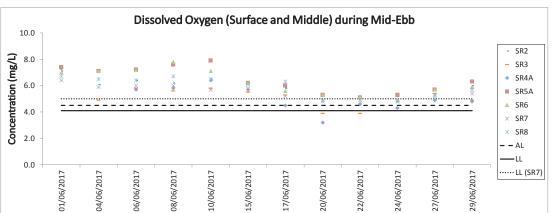
Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

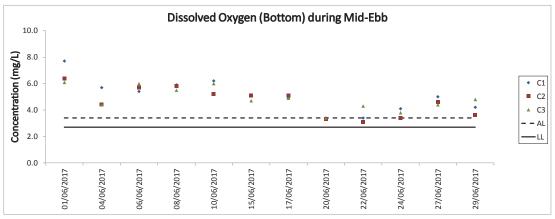
Value exceeding Action Level is underlined; Value exceeding Limit Level is bolded and underlined

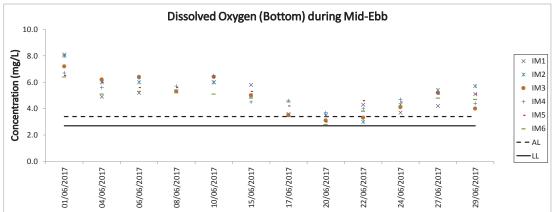


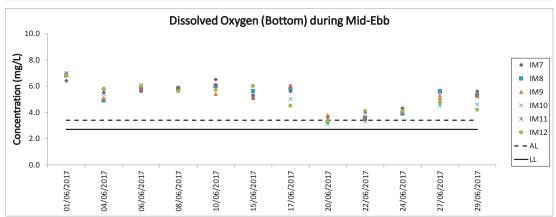


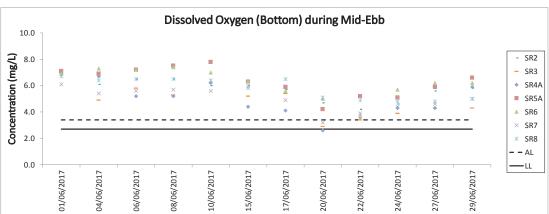


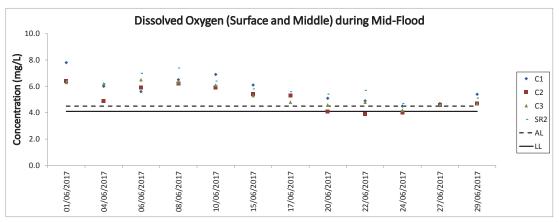


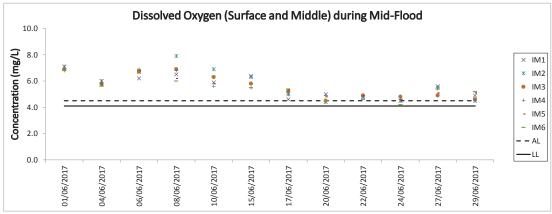


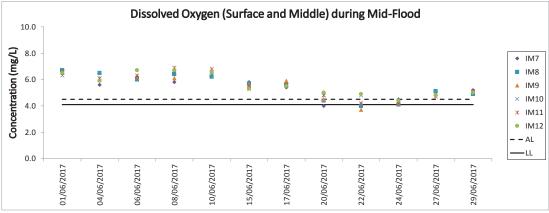


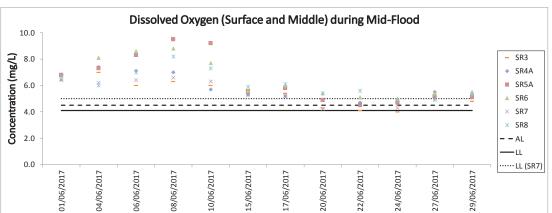


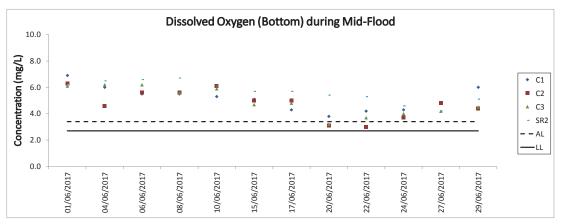


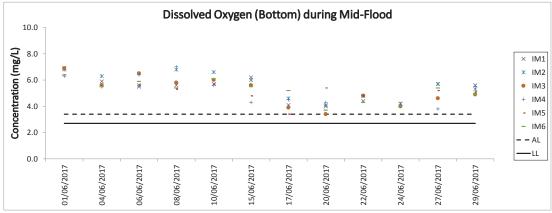


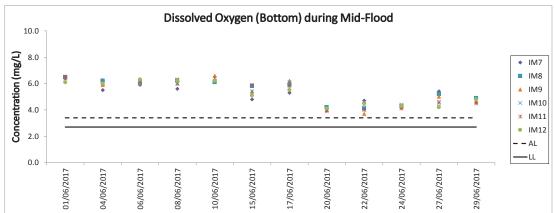


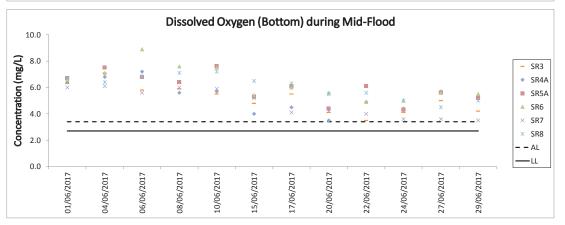


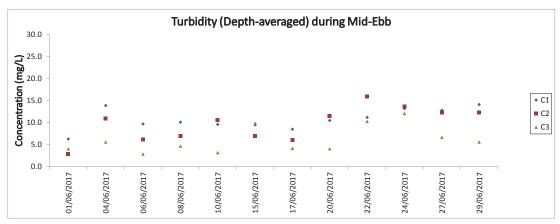


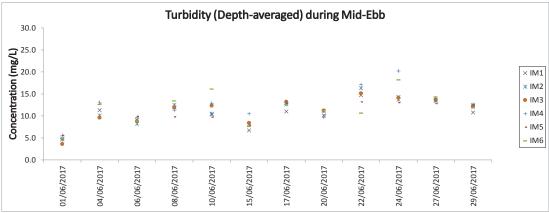


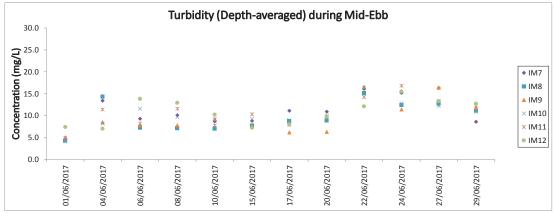


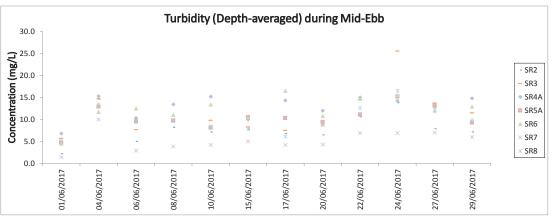




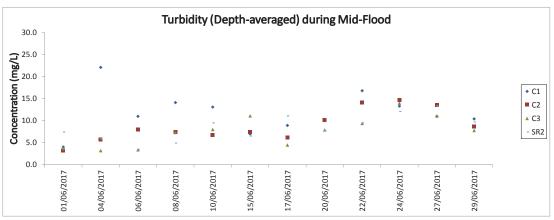


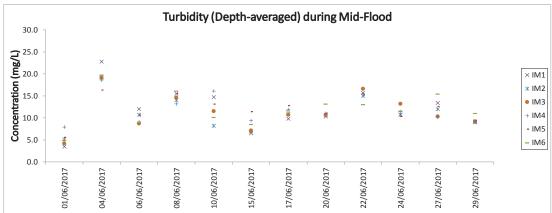


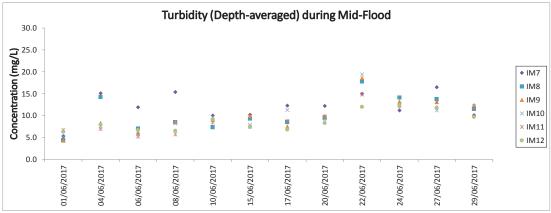


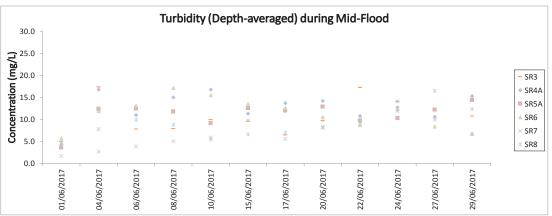


Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report.

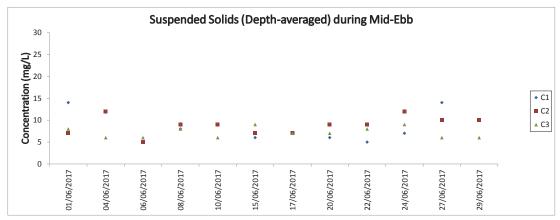


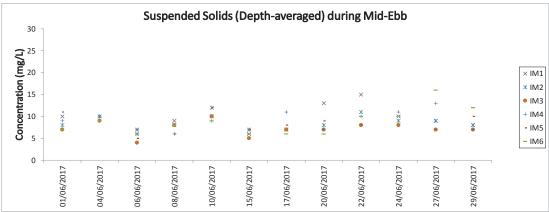


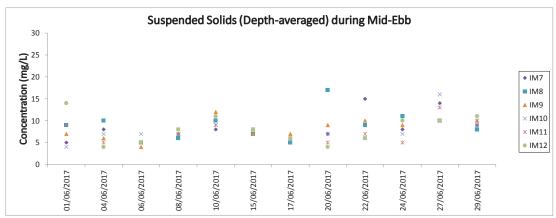


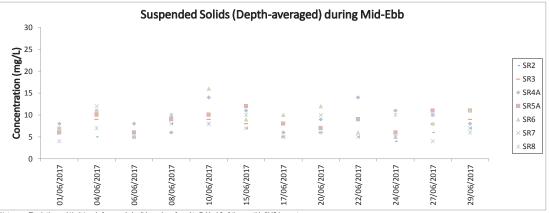


Note: The Action and Limit Level of turbidity can be referred to Table 4.2 of the monthly EM&A report.

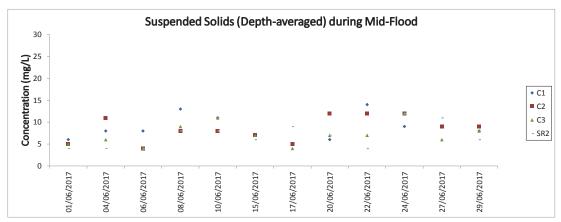


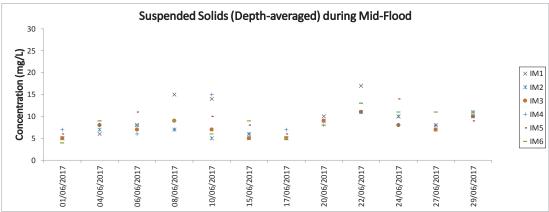


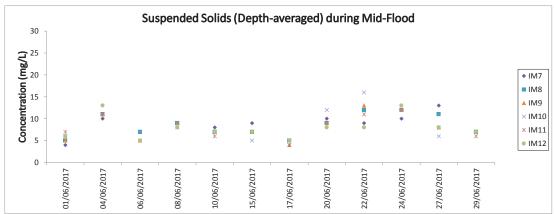


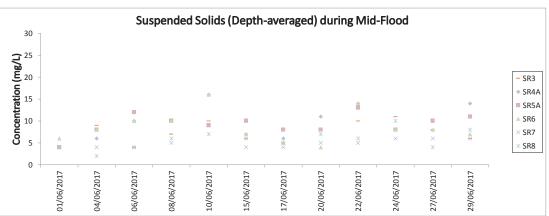


The Action and Limit Level of suspended solids can be referred to Table 4.2 of the monthly EM&A report Note:

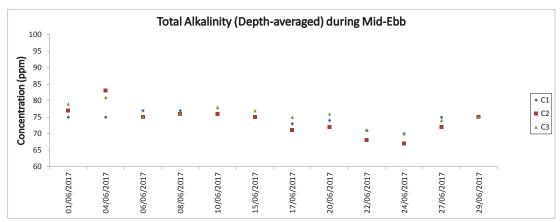


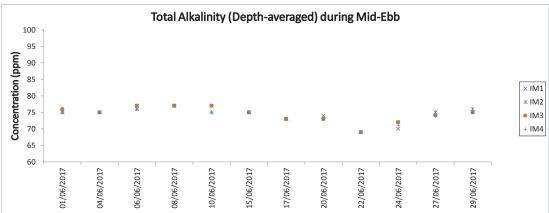


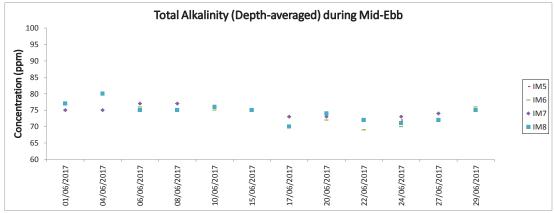


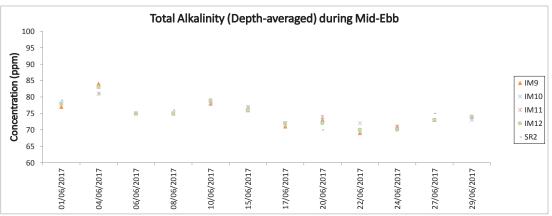


Note: The Action and Limit Level of suspended solids can be referred to Table 4.2 of the monthly EM&A report

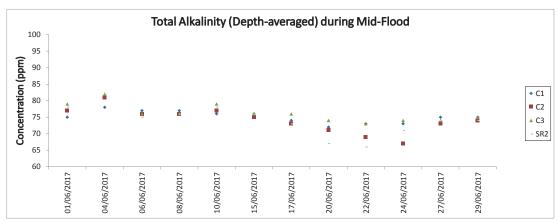


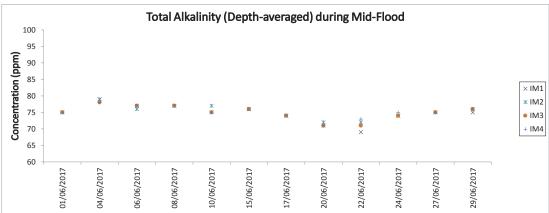


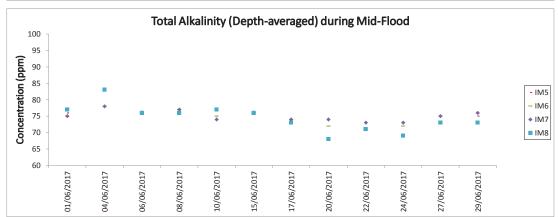


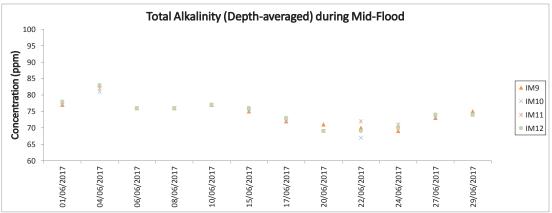


Note: The Action and Limit Level of total alkalinity can be referred to Table 4.2 of the monthly EM&A report

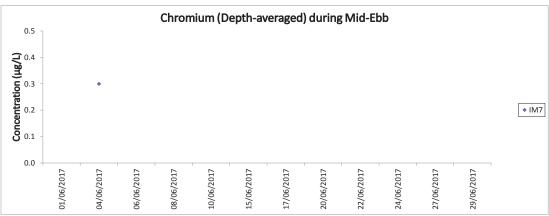




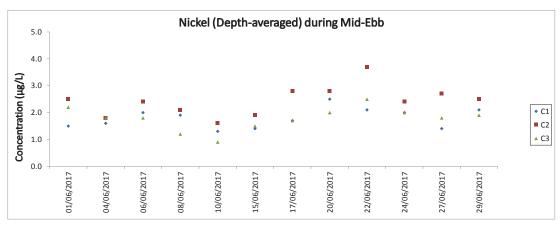


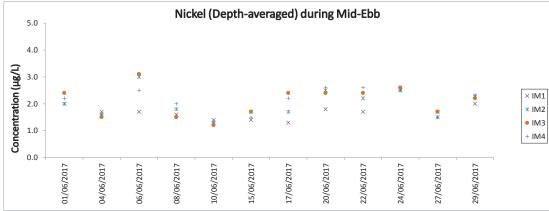


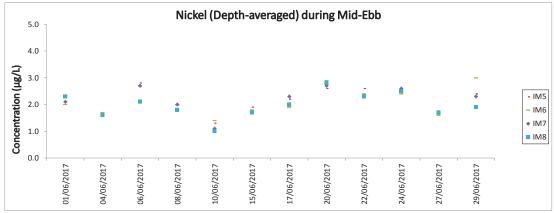
Note: The Action and Limit Level of total alkalinity can be referred to Table 4.2 of the monthly EM&A report

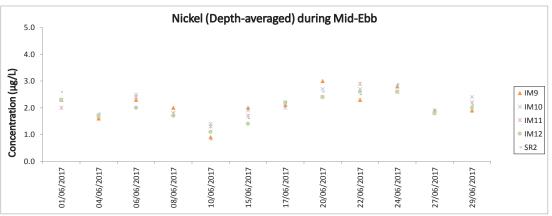


The Action and Limit Level of nickel can be referred to Table 4.2 of the monthly EM&A report. All other chromium results were below the reporting limit 0.2 $\mu g/L$

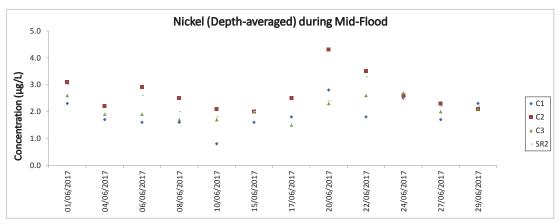


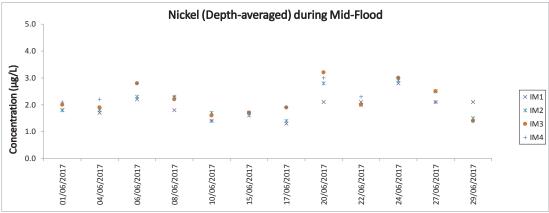


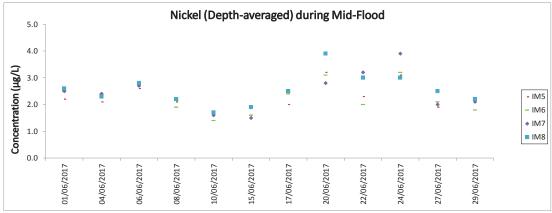


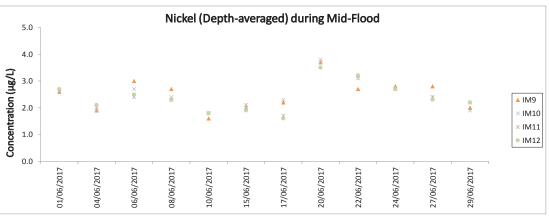


Note: The Action and Limit Level of nickel can be referred to Table 4.2 of the monthly EM&A report









Note: The Action and Limit Level of nickel can be referred to Table 4.2 of the monthly EM&A report

Mott MacDonald Expansion of Hong Kong International Airport into a Three-Runway System
Chinese White Dolphin Monitoring Results
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CWD Small Vessel Line-transect Survey

Survey Effort Data

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE
05-Apr-17	NWL	1	3.000	SPRING	32166	3RS ET
05-Apr-17	NWL	2	38.728	SPRING	32166	3RS ET
05-Apr-17	NWL	3	32.700	SPRING	32166	3RS ET
10-Apr-17	AW	2	1.920	SPRING	32166	3RS ET
10-Apr-17	AW	3	1.090	SPRING	32166	3RS ET
10-Apr-17	AW	4	1.810	SPRING	32166	3RS ET
10-Apr-17	WL	3	24.720	SPRING	32166	3RS ET
10-Apr-17	WL	4	8.880	SPRING	32166	3RS ET
10-Apr-17	SWL	2	8.940	SPRING	32166	3RS ET
10-Apr-17	SWL	3	3.360	SPRING	32166	3RS ET
11-Apr-17	SWL	1	20.090	SPRING	32166	3RS ET
11-Apr-17	SWL	2	32.090	SPRING	32166	3RS ET
11-Apr-17	SWL	3	4.900	SPRING	32166	3RS ET
12-Apr-17	NEL	1	13.483	SPRING	32166	3RS ET
12-Apr-17	NEL	2	26.217	SPRING	32166	3RS ET
12-Apr-17	NEL	3	7.300	SPRING	32166	3RS ET
18-Apr-17	AW	3	4.870	SPRING	32166	3RS ET
18-Apr-17	WL	2	25.679	SPRING	32166	3RS ET
18-Apr-17	WL	3	4.960	SPRING	32166	3RS ET
18-Apr-17	SWL	1	0.821	SPRING	32166	3RS ET
18-Apr-17	SWL	2	5.049	SPRING	32166	3RS ET
24-Apr-17	NEL	2	26.150	SPRING	32166	3RS ET
24-Apr-17	NEL	3	20.650	SPRING	32166	3RS ET
25-Apr-17	NWL	2	1.100	SPRING	32166	3RS ET
25-Apr-17	NWL	3	35.320	SPRING	32166	3RS ET
25-Apr-17	NWL	4	38.880	SPRING	32166	3RS ET
26-Apr-17	SWL	1	1.400	SPRING	32166	3RS ET
26-Apr-17	SWL	2	40.231	SPRING	32166	3RS ET
26-Apr-17	SWL	3	20.409	SPRING	32166	3RS ET
04-May-17	SWL	1	1.190	SPRING	32166	3RS ET
04-May-17	SWL	2	43.260	SPRING	32166	3RS ET
04-May-17	SWL	3	17.450	SPRING	32166	3RS ET
05-May-17	AW	1	5.010	SPRING	32166	3RS ET
05-May-17	WL	2	24.605	SPRING	32166	3RS ET
05-May-17	WL	3	7.320	SPRING	32166	3RS ET
05-May-17	SWL	1	2.630	SPRING	32166	3RS ET
05-May-17	SWL	2	4.260	SPRING	32166	3RS ET
08-May-17	NWL	3	51.352	SPRING	32166	3RS ET
08-May-17	NWL	4	24.048	SPRING	32166	3RS ET
09-May-17	NEL	2	40.300	SPRING	32166	3RS ET
09-May-17	NEL	3	7.100	SPRING	32166	3RS ET
11-May-17	AW	1	4.590	SPRING	32166	3RS ET
11-May-17	WL	1	13.043	SPRING	32166	3RS ET
11-May-17	WL	2	2.621	SPRING	32166	3RS ET
11-May-17	WL	3	7.059	SPRING	32166	3RS ET
11-May-17	WL	4	5.220	SPRING	32166	3RS ET

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE
11-May-17	SWL	2	0.520	SPRING	32166	3RS ET
11-May-17	SWL	3	2.050	SPRING	32166	3RS ET
11-May-17	SWL	4	2.970	SPRING	32166	3RS ET
17-May-17	NWL	1	8.700	SPRING	32166	3RS ET
17-May-17	NWL	2	60.600	SPRING	32166	3RS ET
17-May-17	NWL	3	6.300	SPRING	32166	3RS ET
22-May-17	NEL	2	6.960	SPRING	32166	3RS ET
22-May-17	NEL	3	27.140	SPRING	32166	3RS ET
22-May-17	NEL	4	12.700	SPRING	32166	3RS ET
23-May-17	SWL	2	26.840	SPRING	32166	3RS ET
23-May-17	SWL	3	33.160	SPRING	32166	3RS ET
07-Jun-17	SWL	2	33.230	SUMMER	32166	3RS ET
07-Jun-17	SWL	3	27.200	SUMMER	32166	3RS ET
07-Jun-17	SWL	4	1.900	SUMMER	32166	3RS ET
08-Jun-17	NWL	2	29.074	SUMMER	32166	3RS ET
08-Jun-17	NWL	3	26.566	SUMMER	32166	3RS ET
08-Jun-17	NWL	4	18.660	SUMMER	32166	3RS ET
08-Jun-17	NWL	5	1.100	SUMMER	32166	3RS ET
09-Jun-17	AW	1	1.040	SUMMER	32166	3RS ET
09-Jun-17	AW	2	3.900	SUMMER	32166	3RS ET
09-Jun-17	WL	1	2.850	SUMMER	32166	3RS ET
09-Jun-17	WL	2	5.782	SUMMER	32166	3RS ET
09-Jun-17	WL	3	13.859	SUMMER	32166	3RS ET
09-Jun-17	WL	4	8.589	SUMMER	32166	3RS ET
09-Jun-17	WL	5	0.920	SUMMER	32166	3RS ET
09-Jun-17	SWL	2	0.521	SUMMER	32166	3RS ET
09-Jun-17	SWL	3	1.399	SUMMER	32166	3RS ET
09-Jun-17	SWL	4	4.060	SUMMER	32166	3RS ET
12-Jun-17	NEL	2	1.100	SUMMER	32166	3RS ET
12-Jun-17	NEL	3	28.890	SUMMER	32166	3RS ET
12-Jun-17	NEL	4	7.910	SUMMER	32166	3RS ET
15-Jun-17	NEL	1	4.600	SUMMER	32166	3RS ET
15-Jun-17	NEL	2	37.200	SUMMER	32166	3RS ET
22-Jun-17	SWL	2	25.837	SUMMER	32166	3RS ET
22-Jun-17	SWL	3	29.935	SUMMER	32166	3RS ET
22-Jun-17	SWL	4	2.840	SUMMER	32166	3RS ET
23-Jun-17	NWL	2	37.550	SUMMER	32166	3RS ET
23-Jun-17	NWL	3	31.360	SUMMER	32166	3RS ET
23-Jun-17	NWL	4	4.790	SUMMER	32166	3RS ET
23-Jun-17	NEL	2	4.930	SUMMER	32166	3RS ET
23-Jun-17	NEL	3	2.930	SUMMER	32166	3RS ET
28-Jun-17	AW	2	4.750	SUMMER	32166	3RS ET
28-Jun-17	WL	2	4.697	SUMMER	32166	3RS ET
28-Jun-17	WL	3	16.707	SUMMER	32166	3RS ET
28-Jun-17	WL	4	8.280	SUMMER	32166	3RS ET
28-Jun-17	SWL	3	4.960	SUMMER	32166	3RS ET

Notes:

CWD monitoring survey data of the two preceding survey months (i.e. April and May 2017) are presented for reference only.

CWD Small Vessel Line-transect Survey

Sighting Data

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.
05-Apr-17	1	1132	CWD	2	NWL	2	128	ON	3RS ET	22.3787	113.8765	SPRING	NONE
05-Apr-17	2	1147	CWD	3	NWL	2	16	ON	3RS ET	22.3827	113.8768	SPRING	NONE
11-Apr-17	1	1042	FP	1	SWL	1	336	ON	3RS ET	22.1801	113.9363	SPRING	NONE
11-Apr-17	2	1051	FP	6	SWL	1	3	ON	3RS ET	22.1699	113.9359	SPRING	NONE
11-Apr-17	3	1103	FP	5	SWL	1	43	ON	3RS ET	22.1561	113.9358	SPRING	NONE
11-Apr-17	4	1212	FP	5	SWL	2	363	ON	3RS ET	22.1480	113.9180	SPRING	NONE
18-Apr-17	1	1023	CWD	1	WL	3	17	ON	3RS ET	22.2698	113.8441	SPRING	NONE
18-Apr-17	2	1047	CWD	7	WL	2	580	ON	3RS ET	22.2605	113.8488	SPRING	NONE
18-Apr-17	3	1113	CWD	5	WL	2	277	ON	3RS ET	22.2578	113.8378	SPRING	NONE
18-Apr-17	4	1246	CWD	3	WL	2	278	ON	3RS ET	22.1873	113.8417	SPRING	NONE
18-Apr-17	5	1302	CWD	5	WL	2	450	ON	3RS ET	22.1870	113.8378	SPRING	NONE
18-Apr-17	6	1330	CWD	2	SWL	2	40	ON	3RS ET	22.1831	113.8499	SPRING	NONE
18-Apr-17	7	1406	CWD	2	SWL	2	512	ON	3RS ET	22.1925	113.8595	SPRING	NONE
26-Apr-17	1	1022	CWD	1	SWL	2	48	ON	3RS ET	22.2170	113.9356	SPRING	PURSE SEINE
26-Apr-17	2	1224	FP	2	SWL	2	89	ON	3RS ET	22.1526	113.9068	SPRING	NONE
26-Apr-17	3	1441	CWD	3	SWL	3	55	ON	3RS ET	22.1699	113.8684	SPRING	NONE
26-Apr-17	4	1456	CWD	2	SWL	3	755	ON	3RS ET	22.1692	113.8691	SPRING	NONE
04-May-17	1	1423	CWD	2	SWL	1	318	ON	3RS ET	22.2114	113.8839	SPRING	NONE
05-May-17	1	1032	CWD	11	WL	3	143	ON	3RS ET	22.2318	113.8279	SPRING	NONE
05-May-17	2	1121	CWD	3	WL	2	263	ON	3RS ET	22.2231	113.8363	SPRING	NONE
05-May-17	3	1135	CWD	1	WL	2	271	ON	3RS ET	22.2230	113.8263	SPRING	NONE
05-May-17	4	1211	CWD	5	WL	2	343	ON	3RS ET	22.2053	113.8398	SPRING	NONE
05-May-17	5	1305	CWD	7	WL	2	650	ON	3RS ET	22.1966	113.8405	SPRING	NONE
11-May-17	1	1041	CWD	1	WL	1	171	ON	3RS ET	22.2598	113.8467	SPRING	NONE
11-May-17	2	1118	CWD	9	WL	1	800	ON	3RS ET	22.2466	113.8511	SPRING	NONE
11-May-17	3	1148	CWD	13	WL	2	442	ON	3RS ET	22.2414	113.8442	SPRING	NONE
11-May-17	4	1217	CWD	6	WL	2	118	ON	3RS ET	22.2407	113.8333	SPRING	NONE
11-May-17	5	1228	CWD	6	WL	1	79	ON	3RS ET	22.2378	113.8266	SPRING	NONE
11-May-17	6	1236	CWD	7	WL	2	760	ON	3RS ET	22.2316	113.8287	SPRING	NONE
11-May-17	7	1315	CWD	9	WL	3	306	ON	3RS ET	22.2231	113.8195	SPRING	NONE
11-May-17	8	1335	CWD	11	WL	3	26	ON	3RS ET	22.2157	113.8177	SPRING	NONE

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.
11-May-17	9	1432	CWD	6	WL	3	1021	ON	3RS ET	22.1867	113.8433	SPRING	NONE
11-May-17	10	1513	CWD	6	SWL	4	409	ON	3RS ET	22.1827	113.8498	SPRING	NONE
11-May-17	11	1543	CWD	4	SWL	3	354	ON	3RS ET	22.1967	113.8590	SPRING	NONE
23-May-17	1	1115	CWD	2	SWL	3	1472	ON	3RS ET	22.1802	113.9281	SPRING	NONE
23-May-17	2	1459	CWD	2	SWL	2	N/A	OFF	3RS ET	22.2029	113.8976	SPRING	NONE
07-Jun-17	1	1224	CWD	1	SWL	2	N/A	OFF	3RS ET	22.1766	113.9070	SUMMER	NONE
07-Jun-17	2	1249	CWD	6	SWL	2	125	ON	3RS ET	22.2030	113.9079	SUMMER	NONE
07-Jun-17	3	1507	CWD	2	SWL	2	116	ON	3RS ET	22.2007	113.8684	SUMMER	NONE
08-Jun-17	1	1202	CWD	2	NWL	3	362	ON	3RS ET	22.3993	113.8889	SUMMER	NONE
09-Jun-17	1	1106	CWD	5	WL	2	846	ON	3RS ET	22.2413	113.8450	SUMMER	NONE
09-Jun-17	2	1207	CWD	2	WL	4	138	ON	3RS ET	22.2311	113.8382	SUMMER	NONE
09-Jun-17	3	1240	CWD	3	WL	3	44	ON	3RS ET	22.2120	113.8372	SUMMER	NONE
09-Jun-17	4	1358	CWD	5	SWL	3	6	ON	3RS ET	22.1915	113.8592	SUMMER	NONE
22-Jun-17	1	1026	CWD	9	SWL	2	620	ON	3RS ET	22.2094	113.9364	SUMMER	NONE
22-Jun-17	2	1200	CWD	3	SWL	3	11	ON	3RS ET	22.2054	113.9266	SUMMER	NONE
22-Jun-17	3	1212	CWD	1	SWL	3	67	ON	3RS ET	22.2055	113.9258	SUMMER	NONE
22-Jun-17	4	1222	CWD	1	SWL	3	25	ON	3RS ET	22.2053	113.9191	SUMMER	NONE
22-Jun-17	5	1230	CWD	2	SWL	2	64	ON	3RS ET	22.2026	113.9178	SUMMER	NONE
22-Jun-17	6	1248	CWD	1	SWL	2	720	ON	3RS ET	22.1941	113.9184	SUMMER	NONE
22-Jun-17	7	1354	CWD	2	SWL	2	28	ON	3RS ET	22.1916	113.9083	SUMMER	NONE
22-Jun-17	8	1406	CWD	3	SWL	2	5	ON	3RS ET	22.2063	113.9061	SUMMER	NONE
23-Jun-17	1	1001	CWD	1	NWL	2	72	ON	3RS ET	22.3476	113.8690	SUMMER	NONE
23-Jun-17	2	1212	CWD	2	NWL	3	17	ON	3RS ET	22.4073	113.8882	SUMMER	NONE
28-Jun-17	1	1028	CWD	3	WL	3	869	ON	3RS ET	22.2694	113.8568	SUMMER	NONE
28-Jun-17	2	1047	CWD	3	WL	2	65	ON	3RS ET	22.2649	113.8580	SUMMER	NONE
28-Jun-17	3	1119	CWD	5	WL	3	49	ON	3RS ET	22.2480	113.8515	SUMMER	NONE
28-Jun-17	4	1141	CWD	2	WL	3	250	ON	3RS ET	22.2411	113.8454	SUMMER	NONE
28-Jun-17	5	1201	CWD	2	WL	3	4	ON	3RS ET	22.2321	113.8296	SUMMER	NONE
28-Jun-17	6	1214	CWD	5	WL	4	482	ON	3RS ET	22.2232	113.8342	SUMMER	NONE
28-Jun-17	7	1250	CWD	2	WL	3	441	ON	3RS ET	22.2144	113.8268	SUMMER	NONE
28-Jun-17	8	1330	CWD	5	WL	3	224	ON	3RS ET	22.1953	113.8375	SUMMER	NONE
28-Jun-17	9	1428	CWD	1	SWL	3	1164	ON	3RS ET	22.1831	113.8593	SUMMER	NONE

Abbreviations: STG# = Sighting Number; GP SZ = Dolphin Group Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance (in metres); N/A = Not Applicable; DEC LAT = Latitude (WGS84 in Decimal), DEC LON = Longitude (WGS84 in Decimal); BOAT ASSOC. = Fishing Boat Association

Notes:

CWD monitoring survey data of the two preceding survey months (i.e. April and May 2017) are presented for reference only. No relevant figure or text will be mentioned in the monthly EM&A report.

Sighting data of finless porpoise (FP) are presented for reference only. No relevant figure or text will be mentioned in the monthly EM&A report. All FP sightings are excluded in calculation.

Calculation of the June 2017 encounter rates STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 380.867 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 24 on-effort sightings and total number of 71 dolphins from on-effort sightings were collected under such condition. Calculation of the encounter rates in June 2017 are shown as below:

Encounter Rate by Number of Dolphin Sightings (STG) in June 2017

$$STG = \frac{24}{380.867} \times 100 = 6.30$$

Encounter Rate by Number of Dolphins (ANI) in June 2017

$$ANI = \frac{71}{380.867} \times 100 = 18.64$$

Calculation of the running quarterly STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 1190.104 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 53 on-effort sightings and total number of 210 dolphins from on-effort sightings were collected under such condition. Calculation of the running quarterly encounter rates are shown as below:

Running Quarterly Encounter Rate by Number of Dolphin Sightings (STG)

$$STG = \frac{53}{1190.104} \times 100 = 4.45$$

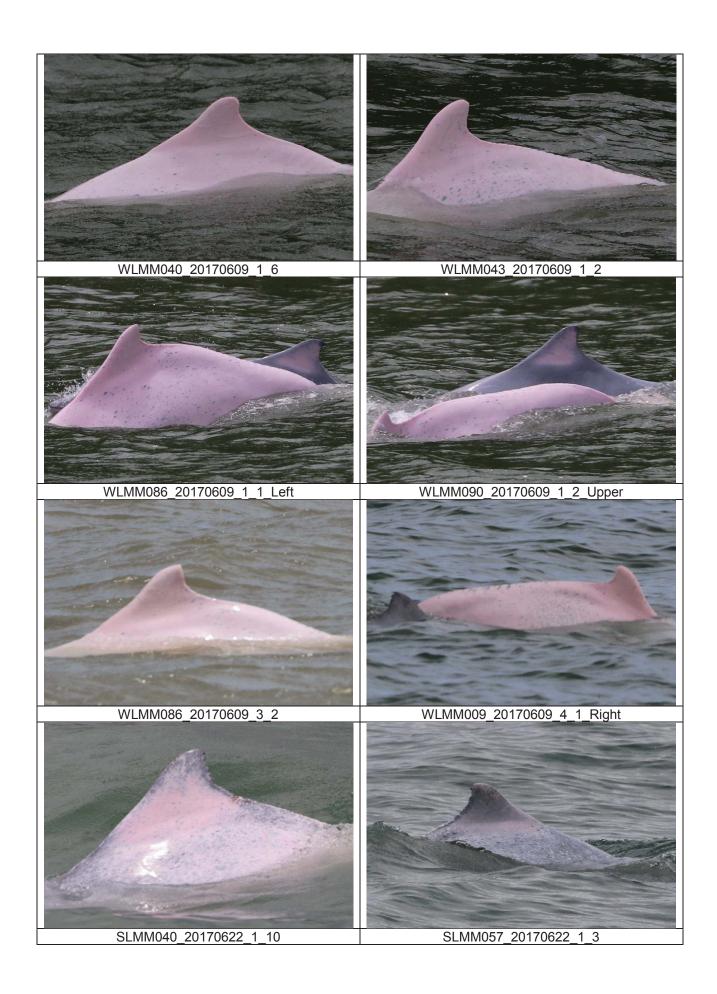
Running Quarterly Encounter Rate by Number of Dolphins (ANI)

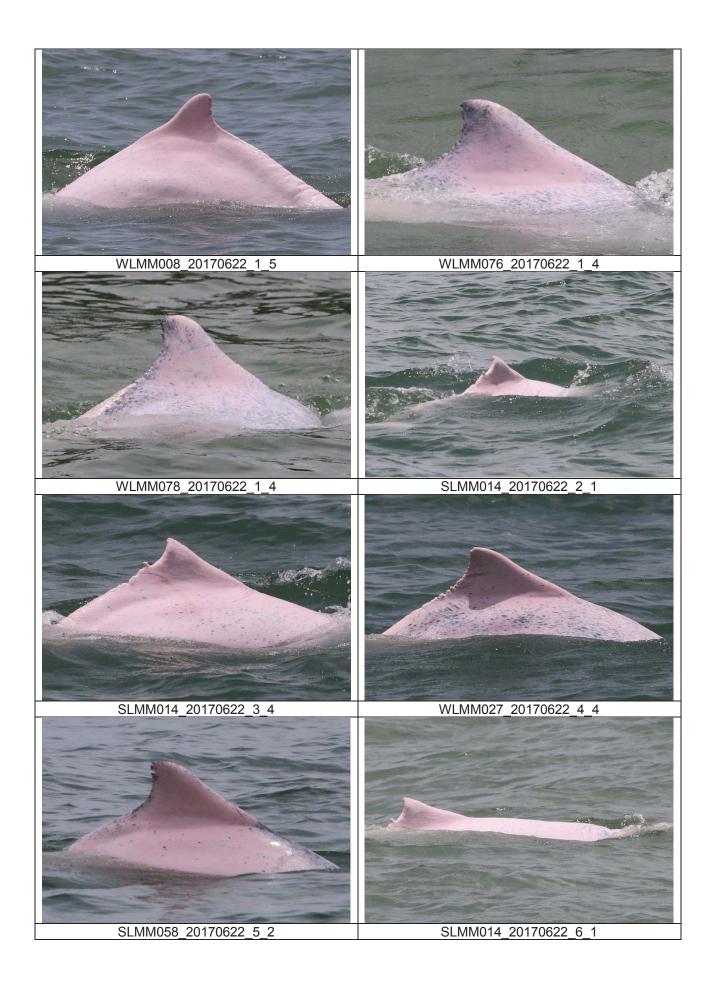
$$ANI = \frac{210}{1190.104} \times 100 = 17.65$$

CWD Small Vessel Line-transect Survey

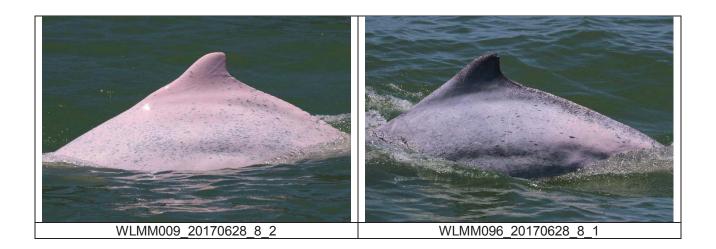
Photo Identification











CWD Land-based Theodolite Tracking

CWD Groups by Survey Date

Date	Station	Start Time	End Time	Duration	Beaufort Range	Visibility	No. of Focal Follow Dolphin Groups Tracked	Dolphin Group Size Range
22/Jun/17	Lung Kwu Chau	8:44	14:44	6:00	2-3	2	0	N/A
23/Jun/17	Sha Chau	8:44	14:44	6:00	2-3	1-2	0	N/A
26/Jun/17	Lung Kwu Chau	8:37	14:40	6:03	1-3	2	5	3-5
27/Jun/17	Sha Chau	8:39	14:39	6:00	2-3	1-2	0	N/A
29/Jun/17	Lung Kwu Chau	8:46	14:46	6:00	2-3	1	4	2-5

Visibility: 1=Excellent, 2=Good, 3=Fair, 4=Poor

Appendix D. Calibration Certificates



業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong Email: info@qualityprotest.com; Website: www.qualityprotest.com Tel: (852) 3956 8717; Fax: (852) 3956 3928

CALIBRATION REPORT

Report No.

AG060187

Date of Issue

June 27, 2017

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811. Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong

Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment

YSI ProDSS (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

15M101244

Date of Received

Jun 16, 2017

Date of Calibration

Jun 16, 2017

Date of Next Calibration(a)

Sep 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

APHA 21e 4500-H+ B APHA 21e 4500-O G

Dissolved Oxygen Conductivity at 25°C

APHA 21e 2510 B

Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D - CALIBRATION RESULTS(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance(e)(pH Unit)	Results
4.00	4.06	+0.06	Satisfactory
7.42	7.49	+0.07	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

The results relate only to the calibrated equipment as received

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary

"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY:

CHAN Mei-wah Amy Assistant Lab. Manager



業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong Email: info@qualityprotest.com; Website: www.qualityprotest.com Tel: (852) 3956 8717; Fax: (852) 3956 3928

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PART D - CALIBRATION RESULTS (Cont'd)

(2) Temperature

	Results
lerance (°C)	Results
+0.1	Satisfactory
-0.4	Satisfactory
-0.5	Satisfactory
	-0.5

Tolerance limit of temperature should be less than ±2.0 (°C)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.16	8.13	-0.03	Satisfactory
8.16	3,58	+0.04	Satisfactory
3.54	0.41	-0.04	Satisfactory
0.45	0.41	V.V.	

Tolerance limit of dissolved oxygen should be less than ± 0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
146.9	146.1	-0.54	Satisfactory
1412	1451	+2.8	Satisfactory
12890	12740	-1.16	Satisfactory
	57408	-2.15	Satisfactory
58670	110248	-1.50	Satisfactory
111900	110246	1.50	

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.96	-0.4	Satisfactory
30	20.17	+0.9	Satisfactory
20	29.97	-0.1	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

urbiany			D14-
Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance(g)(%)	Results
0	0		Satisfactory
- 4	3.8	-5.0	Satisfactory
20	21.9	+9.5	Satisfactory
20	98.4	-1.6	Satisfactory
100	15/19/07_2/	+2.3	Satisfactory
800	818	14.3	Stillitation

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

[&]quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.



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OUALITY PRO TEST-CONSULT LIMITED

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CALIBRATION REPORT

Report No.

AG060184

Date of Issue

June 27, 2017

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment

YSI ProDSS (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

16J101716

Date of Received

Jun 16, 2017

Date of Calibration

Jun 16, 2017

Date of Next Calibration(a)

Sep 16, 2017

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

APHA 21e 4500-H+ B APHA 21e 4500-O G

Dissolved Oxygen Conductivity at 25°C

APHA 21e 2510 B

Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D - CALIBRATION RESULTS(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	3.94	-0.06	Satisfactory
7.42	7.39	-0.03	Satisfactory
10.01	10.07	+0.06	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	15.9	-0.2	Satisfactory
23.0	22.6	-0.4	Satisfactory
37.0	36.3	-0.7	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

The results relate only to the calibrated equipment as received

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

"Displayed Reading" denotes the figure shown on item under calibration/checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY:

CHAN Mei-wah Amy Assistant Lab. Manager



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CALIBRATION REPORT

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AG060184

Date of Issue

: June 27, 2017

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PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.39	-0.06	Satisfactory
3.54	3.50	-0.04	Satisfactory
8.16	8.19	+0.03	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
146.9	151.8	+3.3	Satisfactory
1412	1430	+1.3	Satisfactory
12890	12545	-2.7	Satisfactory
58670	56934	-3.0	Satisfactory
111900	109362	-2.3	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.91	-0.9	Satisfactory
20	20.12	+0.6	Satisfactory
30	30.18	+0.6	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading(f) (NTU)	Tolerance(g)(%)	Results
0	0		Satisfactory
4	4.1	+2.5	Satisfactory
20	19.8	-1.0	Satisfactory
100	107	+7.0	Satisfactory
800	782	-2.3	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

Remark(s): -

[&]quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.



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Report of Equipment Performance Check/Calibration

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811, Hin Pui House,

Hin Keng Estate, Tai Wai New Territories, Hong Kong Attn: Mr. Thomas WONG

PART B - DESCRIPTION

YSI 6920 V2 Sonde (Multi-Parameters) Name of Equipment

Manufacturer YSI (a xylem brand)

00019CB2 Serial Number Date of Received 16 Jun, 2017 16 Jun, 2017 Date of Calibration Date of Next Calibration(a) 16 Sep, 2017

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Reference Method **Parameter** pH at 25°C APHA 21e 4500-H+ B APHA 21e 4500-O G Dissolved Oxygen APHA 21e 2510 B Conductivity at 25°C APHA 21e 2520 B Salinity APHA 21e 2130 B Turbidity

Section 6 of international Accreditation New Zealand Technical Temperature

Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D - CALIBRATION RESULTS(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.06	+0.06	Satisfactory
7.42	7.35	-0.07	Satisfactory
10.01	9.98	-0.03	Satisfactory

Tolerance of pH should be less than ±0.10 (pH unit)

~ CONTINUED ON NEXT PAGE ~

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

The results relate only to the calibrated equipment as received

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary

"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY:

FUNG Yuen-ching Aries Laboratory Manager



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PART D - CALIBRATION RESULTS (Cont'd)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	15.9	-0.2	Satisfactory
23.0	23.4	+0.4	Satisfactory
37.0	36.4	-0.6	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.49	+0.04	Satisfactory
3.54	3.48	-0.06	Satisfactory
8.16	8.12	-0.04	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
146.9	142.4	-3.1	Satisfactory
1412	1392	-1.4	Satisfactory
12890	12382	-3.9	Satisfactory
58670	57432	-2.1	Satisfactory
111900	107938	-3.5	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.91	-0.9	Satisfactory
20	20.11	+0.6	Satisfactory
30	30.14	+0.5	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading(f) (NTU)	Tolerance ^(g) (%)	Results
0	0		Satisfactory
4	4.1	+2.5	Satisfactory
20	20.9	+4.5	Satisfactory
100	103	+3.0	Satisfactory
800	824	+3.0	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

[&]quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.



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Report of Equipment Performance Check/Calibration

Report No.

AG060182

Date of Issue

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong

Attn: Mr. Thomas WONG

PART B - DESCRIPTION

Name of Equipment

YSI 6920 V2 Sonde (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

000109DF

Date of Received

16 Jun, 2017

Date of Calibration

16 Jun, 2017

Date of Next Calibration(a)

16 Sep, 2017

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter

Reference Method

pH at 25°C

APHA 21e 4500-H+ B APHA 21e 4500-O G

Dissolved Oxygen Conductivity at 25°C

APHA 21e 2510 B

Salinity

APHA 21e 2520 B

Turbidity

APHA 21e 2130 B

Temperature

Section 6 of international Accreditation New Zealand Technical

Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D - CALIBRATION RESULTS(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.03	+0.03	Satisfactory
7.42	7.43	+0.01	Satisfactory
10.01	10.05	+0.04	Satisfactory

Tolerance of pH should be less than ± 0.10 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16.1	16.0	-0.1	Satisfactory
23.0	23.3	+0.3	Satisfactory
37.0	36.8	-0.2	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

The results relate only to the calibrated equipment as received

"Displayed Reading" denotes the figure shown on item under calibration/checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by QPT or quoted form relevant international standards.

APPROVED SIGNATORY:

FUNG Yuen-ching Aries Laboratory Manager

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated



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Report of Equipment Performance Check/Calibration

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PART D - CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.45	0.42	-0.03	Satisfactory
3.54	3.51	-0.03	Satisfactory
8.16	8.11	-0.05	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.20 (mg/L)

(4) Conductivity at 25°C

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)	Results
146.9	144.0	-2.0	Satisfactory
1412	1338	-5.2	Satisfactory
12890	12462	-3.3	Satisfactory
58670	57332	-2.3	Satisfactory
111900	108004	-3.5	Satisfactory

Tolerance limit of conductivity should be less than ±10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.94	-0.6	Satisfactory
20	20.02	+0.1	Satisfactory
30	30.09	+0.3	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance(g)(%)	Results
0	0	See .	Satisfactory
4	3.8	+5.0	Satisfactory
20	21.2	+6.0	Satisfactory
100	95.4	+4.6	Satisfactory
800	821	+2.6	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

[&]quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

CALIBRATION REPORT

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: Jun 27, 2017

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PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd. Rm 811, Hin Pui House, Hin Keng Estate, Tai Wai New Territories, Hong Kong Attn: Mr. Thomas Wong

PART B - SAMPLE INFORMATION

Description of Samples

Titrette bottletop burette, 50ml

Brand Name

BRAND

Model Number

1224B90

10N65665

Serial Number Equipment Number

Date of Received

Jun 16, 2017

Date of Calibration

Jun 19, 2017

Date of Next Calibration(a)

Sep 19, 2017

PART C - CALIBRATION REQUESTED

Parameter

Reference Method

Accuracy Test

In-house Method (Gravimetric Method)

~ Continued On Next Page ~

Remark(s): -

APPROVED SIGNATORY:

CHAN Mei-wah Amy Assistant Lab. Manager

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international



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CALIBRATION REPORT

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PART D - RESULT(b),(c)

Water temperature: 23.5 ℃

Relative humidity: 58%

z-Factor: 1.0036

		Nomina	al volume (mL) at	interval	
	3	3	3	3	3
Trial	Range: (1-4)	Range: (16-19)	Range: (23-26)	Range: (34-37)	Range: (42-45)
1	2.9845	2.9774	2.9779	2.9887	2.9797
2	2.9891	2.9842	2.9859	2.9826	2.9866
3	2.9894	2.9745	2.9876	2.9882	2.9808
4	2.9872	2.9882	2.9838	2.9819	2.9702
5	2.9839	2.9825	2.9858	2.9875	2.9892
6	2.9828	2.9886	2.9823	2.9898	2.9805
7	2.9802	2.9845	2.9821	2.9906	2.9776
8	2.9863	2.9833	2.9814	2.9841	2.9793
9	2.9815	2.9909	2.9849	2.9811	2.9825
10	2.9849	2.9808	2.9848	2.9898	2.9807
Average	2.9850	2.9835	2.9837	2.9864	2.9807
Standard deviation	0.0031	0.0051	0.0028	0.0036	0.0051
Calculated volume (mL)	2.9957	2.9942	2.9944	2.9972	2.9914
Error (%)	-0.1425	-0.1923	-0.1870	-0.0940	-0.2853
RSD (%)	0.1022	0.1692	0.0935	0.1211	0.1702

Acceptance Criteria (d)

Accuracy (%Error)	<±1%	<±1%	< ±1%	< ±1%	< ±1%
Precision (%RSD)	< 1%	< 1%	< 1%	< 1%	< 1%

~ END OF REPORT ~

Remark(s):
(b) The results relate only to the tested sample as received

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "acceptance criteria" is applicable for similar equipment used by QPT or quoted form relevant international standards.

Appendix E. Status of Environmental **Permits and Licences**

	Description		Permit/ Reference No.	Status
EIAO	Environmental Permit		EP-489/2014	Approved on 7 Nov 2014
Contract No.	Description	Location	Permit/ Reference No.	Status
P560 (R)	Notification of Construction Work under APCO	Launching Site	397150	Receipt acknowledged by EPD on 15 Jan 2016
		Site Office	397151	_
		Stockpiling Area	398015	Receipt acknowledged by EPD on 18 Jan 2016
		Sheung Sha Chau	405860	Receipt acknowledged by EPD on 5 Aug 2016
	Construction Noise Permit (General Works)	Launching Site	GW-RS0243-17	Valid from 21 Mar 2017 to 20 Sep 2017
	Permit (General Works) Site Stockpiling Area		GW-RS0242-17	Valid from 23 Mar 2017 to 22 Sep 2017
	Discharge License under WPCO	Launching Site	WT00024249- 2016	Approved on 25 Apr 2016
		Stockpiling Area	WT00024250- 2016	Approved on 25 Apr 2016
	Registration as Launching Chemical Waste Site Producer		WPN 5213-951- L2902-01	Update the Registration on 3 Oct 2016
		Stockpiling Area	WPN 5213-951- L2902-02	Update the Registration on 3 Oct 2016
	Bill Account for disposal		A/C 7023982	Approval granted from EPD on 14 Dec 2015
3201	Notification of Construction Work under APCO	Works area of 3201	406004	Receipt acknowledged by EPD on 10 Aug 2016
	Construction Noise Permit (General Works)	Works area of 3201	GW-RS0398-17	Valid from 28 Apr 2017 to 27 Oct 2017
	Registration as Chemical Waste Producer	Works area of 3201	WPN 5213-951- P3231-01	Completion of Registration on 9 Sep 2016
	Bill Account for disposal		A/C 7025760	Approval granted from EPD on 31 Aug 2016
3202	Notification of Construction Work under APCO	Works area of 3202	407624	Receipt acknowledged by EPD on 15 Sep 2016
	Construction Noise Permit (General Works)	Works area of 3202	GW-RS0312-17	Valid from 7 Apr 2017 to 26 Sep 2017
		Site Office of 3202	GW-RS0145-17	Valid from 21 Feb 2017 to 20 Aug 2017

	Description		Permit/ Reference No.	Status
	Registration as Chemical Waste Producer	Works area of 3202	WPN 5213-951- S3967-01	Completion of Registration on 24 Oct 2016
	Discharge License	Works area of 3202	WT00028293- 2017	Valid from 12 Jun 2017 to 30 June 2022
	Bill Account for disposal		A/C 7025739	Approval granted from EPD on 31 August 2016
3203	Notification of Construction Work under APCO	Works area of 3203	407053	Receipt acknowledged by EPD on 2 Sep 2016
	Construction Noise Permit (General Works)	Works area of 3203	GW-RS0323-17	Valid from 19 Apr 2017 to 18 Oct 2017
	Registration as Chemical Waste Producer	Works area of 3203	WPN 5213-951- S3954-01	Update the Registration on 12 Dec 2016
	Discharge License	Works area of 3203	WT00028251- 2017	Valid from 9 Jun 2017 to 30 June 2022
	Bill Account for disposal		A/C 7025846	Approval granted from EPD on 9 Sep 2016
3204	Notification of Construction Work under APCO	Works area of 3204	406446	Receipt acknowledged by EPD on 19 Aug 2016
	Construction Noise Permit (General Works)	Works Area of 3204	GW-RS0213-17	Valid from 14 Mar 2017 to 13 Sep 2017
		Site Office of 3204	GW-RS0136-17	Valid from 17 Feb 2017 to 16 Aug 2017
	Registration as Chemical Waste Producer	Works Area of 3204	WPN 5213-951- C4102-01	Completion of Registration on 15 Sep 2016
		Site Office of 3204	WPN 5213-951- C4102-02	Completion of Registration on 17 Mar 2017
	Discharge License	Works area of 3204	WT00028245- 2017	Valid from 5 Jun 2017 to 30 June 2022
	Bill Account for disposal		A/C 7025969	Approval granted from EPD on 21 Sep 2016
3205	Notification of Construction Work under APCO	Works area of 3205	409041	Receipt acknowledged by EPD on 19 Oct 2016
	Registration as Chemical Waste Producer	Works Area of 3205	WPN 5213-951- B2502-01	Completion of Registration on 13 Jan 2017
		Works Area of 3205	WPN 5111-421- B2509-01	Completion of Registration on 22 Feb 2017
	Construction Noise Permit (General Works)	Works Area of 3205	GW-RS0434-17	Valid from 15 May 2017 to 11 Nov 2017
	Discharge License	Works area of 3205	WT00028370- 2017	Valid from 21 Jun 2017 to 30 June 2022
	Bill Account for disposal	Works area of 3205	A/C 7026295	Approval granted from EPD on 9 Nov 2016
3206	Notification of Construction Work under APCO	Works area of 3206	409237	Receipt acknowledged by EPD on 25 Oct 2016
	Registration as Chemical Waste Producer	Site office of 3206	WPN 5213-951- Z4035-01	Completion of Registration on 18 Nov 2016
		Works area of 3206	WPN 5213-951- Z4035-02	Completion of Registration on 18 Nov 2016

Description		Permit/ Reference No.	Status
Construction Noise Permit (General Works)	Works Area of 3206	GW-RS0458-17	Valid from 20 May 2017 to 19 Nov 2017
	Works Area of 3206	GW-RS0430-17	Valid from 25 May 2017 to 20 Sep 2017
	Site Office of 3206	GW-RS0148-17	Valid from 27 Feb 2017 to 10 Jun 2017 (Superseded by GW-RS0511-17 on 14 Jun 2017)
	Site Office of 3206	GW-RS0511-17	Valid from 14 Jun 2017 to 15 Sep 2017
Bill Account for disposal	Works area of 3206	A/C 7026398	Approval granted from EPD on 16 Nov 2016

Appendix F. Cumulative Statistics on Exceedances, Environmental Complaints, Notification of Summons and Status of Prosecution

Statistics for Exceedances for 1-hour TSP, Noise, Water, Waste, CWD Monitoring

		Total no. recorded in the reporting month	Total no. recorded since the project commenced
1-hr TSP	Action	0	0
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water	Action	0	0
	Limit	0	0
Waste	Action	0	0
	Limit	0	0
CWD	Action	0	0
	Limit	0	0

Remark: Exceedances, which are not project related, are not shown in this table.

Statistics for Complaints, Notifications of Summons and Prosecution

Reporting Period	Cumulative Statistics					
	Complaints	Notifications of Summons	Prosecutions			
This reporting month	0	1	0			
From 28 December 2015 to end of the reporting month	5	1	0			

Appendix G. Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 30 June 2017)

<u>Data of SkyPier HSF Movements to/from Zhuhai and Macau (between 1 and 30 June 2017)</u>

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MEM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
01-Jun	08:18	3A061	YFT	Arrival	11.6	-	-
01-Jun	08:26	8S210	MFM	Arrival	12.8	-	-
01-Jun	10:02	3A071	MFM	Arrival	12.1	-	-
01-Jun	10:47	8S212	MFM	Arrival	12.4	-	-
01-Jun	10:53	3A081	ZUI	Arrival	12.1	-	-
01-Jun	11:09	8S121	MFM	Departure	13	-	-
01-Jun	11:17	3A063	YFT	Arrival	12.4	-	-
01-Jun	12:13	3A168	YFT	Departure	12.7	-	-
01-Jun	12:16	3A181	ZUI	Departure	13	-	-
01-Jun	12:46	8S215	MFM	Arrival	11.2	-	-
01-Jun	13:08	3A064	YFT	Arrival	12.1	-	-
01-Jun	13:16	8S123	MFM	Departure	11.7	-	-
01-Jun	13:54	3A082	ZUI	Arrival	12.4	-	-
01-Jun	14:10	3A182	ZUI	Departure	13.1	-	-
01-Jun	14:22	3A164	YFT	Departure	11.5	-	-
01-Jun	15:12	3A065	YFT	Arrival	12.7	-	-
01-Jun	16:14	3A167	YFT	Departure	12.7	-	-
01-Jun	16:39	3A083	ZUI	Arrival	12.4	-	-
01-Jun	16:47	8S218	MFM	Arrival	11.1	-	-
01-Jun	17:03	3A183	ZUI	Departure	12.4	-	-
01-Jun	17:05	8S126	MFM	Departure	11.5	-	-
01-Jun	17:16	3A067	YFT	Arrival	11.9	-	-
01-Jun	19:05	3A166	YFT	Departure	12.6	-	-
01-Jun	19:48	3A084	ZUI	Arrival	12.6	-	-
01-Jun	20:04	3A185	ZUI	Departure	13	-	-
01-Jun	20:57	3A169	YFT	Departure	11.6	-	-
01-Jun	21:05	8S2113	MFM	Arrival	11.8	-	-
01-Jun	21:58	8S522	MFM	Departure	11.4	-	-
02-Jun	08:17	3A061	YFT	Arrival	12.5	-	-
02-Jun	08:34	8S210	MFM	Arrival	12.6	-	-
02-Jun	09:55	3A071	MFM	Arrival	12.4	-	-
02-Jun	10:43	8S212	MFM	Arrival	12.4	-	-
02-Jun	10:49	3A081	ZUI	Arrival	12.9	-	-
02-Jun	11:06	8S121	MFM	Departure	11.5	-	-
02-Jun	11:20	3A063	YFT	Arrival	12	-	-
02-Jun	12:20	3A168	YFT	Departure	12.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
02-Jun	12:24	3A181	ZUI	Departure	12.9	-	-
02-Jun	12:50	8S215	MFM	Arrival	12.5	-	-
02-Jun	12:59	3A064	YFT	Arrival	12.5	-	-
02-Jun	13:05	8S123	MFM	Departure	12.9	-	-
02-Jun	13:45	3A082	ZUI	Arrival	12.7	-	-
02-Jun	14:10	3A182	ZUI	Departure	13.2	-	-
02-Jun	14:15	3A164	YFT	Departure	12.7	-	-
02-Jun	15:15	3A065	YFT	Arrival	12	-	-
02-Jun	16:18	3A167	YFT	Departure	12.5	-	-
02-Jun	16:39	3A083	ZUI	Arrival	12.4	-	-
02-Jun	16:42	8S218	MFM	Arrival	13.1	-	-
02-Jun	17:01	3A183	ZUI	Departure	12.9	-	-
02-Jun	17:01	8S126	MFM	Departure	12.5	-	-
02-Jun	17:14	3A067	YFT	Arrival	12.2	-	-
02-Jun	19:06	3A166	YFT	Departure	13	-	-
02-Jun	19:49	3A084	ZUI	Arrival	12.9	-	-
02-Jun	20:12	3A185	ZUI	Departure	13	-	-
02-Jun	20:58	8S2113	MFM	Arrival	12.1	-	-
02-Jun	21:04	3A169	YFT	Departure	12.3	-	-
02-Jun	22:02	8S522	MFM	Departure	12.2	-	-
03-Jun	08:17	3A061	YFT	Arrival	13.2	-	-
03-Jun	08:32	8S210	MFM	Arrival	13.3	-	-
03-Jun	10:00	3A071	MFM	Arrival	11	-	-
03-Jun	10:37	8S212	MFM	Arrival	12.6	-	-
03-Jun	10:43	3A081	ZUI	Arrival	13.1	-	-
03-Jun	11:17	8S121	MFM	Departure	13	-	-
03-Jun	11:23	3A063	YFT	Arrival	11.9	-	-
03-Jun	12:22	3A181	ZUI	Departure	13	-	-
03-Jun	12:25	3A168	YFT	Departure	11.5	-	-
03-Jun	12:47	8S215	MFM	Arrival	11.4	-	-
03-Jun	12:54	3A064	YFT	Arrival	13.3	-	-
03-Jun	13:18	8S123	MFM	Departure	11.1	-	-
03-Jun	13:53	3A082	ZUI	Arrival	12.1	-	-
03-Jun	14:10	3A182	ZUI	Departure	12.7	-	-
03-Jun	14:16	3A164	YFT	Departure	13.6	-	-
03-Jun	15:15	3A065	YFT	Arrival	11.4	-	-
03-Jun	16:15	3A167	YFT	Departure	11.8	-	-
03-Jun	16:39	3A083	ZUI	Arrival	13.4	-	-
03-Jun	16:44	8S218	MFM	Arrival	11.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
03-Jun	17:00	3A067	YFT	Arrival	13.3	-	-
03-Jun	17:06	3A183	ZUI	Departure	13.6	-	-
03-Jun	17:14	8S126	MFM	Departure	11.5	-	-
03-Jun	19:06	3A166	YFT	Departure	13.2	-	-
03-Jun	19:51	3A084	ZUI	Arrival	13.1	-	-
03-Jun	20:09	3A185	ZUI	Departure	13.1	-	-
03-Jun	20:55	8S2113	MFM	Arrival	12.3	-	-
03-Jun	21:05	3A169	YFT	Departure	12.8	-	-
03-Jun	21:54	8S522	MFM	Departure	11.8	-	-
04-Jun	08:11	3A061	YFT	Arrival	12.8	-	-
04-Jun	08:26	8S210	MFM	Arrival	11.7	-	-
04-Jun	10:00	3A071	MFM	Arrival	12.3	-	-
04-Jun	10:42	3A081	ZUI	Arrival	13.4	-	-
04-Jun	10:52	8S212	MFM	Arrival	12.6	-	-
04-Jun	11:16	8S121	MFM	Departure	13	-	-
04-Jun	11:23	3A063	YFT	Arrival	12.8	-	-
04-Jun	12:22	3A168	YFT	Departure	13	-	-
04-Jun	12:27	3A181	ZUI	Departure	12.7	-	-
04-Jun	12:53	3A064	YFT	Arrival	12.6	-	-
04-Jun	12:56	8S215	MFM	Arrival	12.8	-	-
04-Jun	13:21	8S123	MFM	Departure	13.1	-	-
04-Jun	13:59	3A082	ZUI	Arrival	12.3	-	-
04-Jun	14:29	3A164	YFT	Departure	12.9	-	-
04-Jun	14:30	3A182	ZUI	Departure	12	-	-
04-Jun	15:09	3A065	YFT	Arrival	12.9	-	-
04-Jun	16:18	3A167	YFT	Departure	13.6	-	-
04-Jun	16:52	8S218	MFM	Arrival	12.3	-	-
04-Jun	16:53	3A083	ZUI	Arrival	13.2	-	-
04-Jun	16:56	3A067	YFT	Arrival	12.8	-	-
04-Jun	17:17	8S126	MFM	Departure	13.3	-	-
04-Jun	17:20	3A183	ZUI	Departure	13.5	-	-
04-Jun	19:05	3A166	YFT	Departure	12	-	-
04-Jun	19:54	3A084	ZUI	Arrival	13.3	-	-
04-Jun	20:15	3A185	ZUI	Departure	13.1	-	-
04-Jun	21:01	8S2113	MFM	Arrival	11.9	-	-
04-Jun	21:08	3A169	YFT	Departure	12.5	-	-
04-Jun	21:55	8S522	MFM	Departure	12.3	-	-
05-Jun	08:16	3A061	YFT	Arrival	12.1	-	-
05-Jun	08:29	8S210	MFM	Arrival	12	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
05-Jun	09:48	3A071	MFM	Arrival	13.5	-	-
05-Jun	10:42	3A081	ZUI	Arrival	13.4	-	-
05-Jun	10:45	8S212	MFM	Arrival	12.6	-	-
05-Jun	11:15	8S121	MFM	Departure	12.6	-	-
05-Jun	11:25	3A063	YFT	Arrival	12.2	-	-
05-Jun	12:23	3A181	ZUI	Departure	12.7	-	-
05-Jun	12:24	3A168	YFT	Departure	11.9	-	-
05-Jun	12:56	8S215	MFM	Arrival	11.8	-	-
05-Jun	12:59	3A064	YFT	Arrival	12.4	-	-
05-Jun	13:27	8S123	MFM	Departure	12.9	-	-
05-Jun	14:08	3A082	ZUI	Arrival	13	-	-
05-Jun	14:26	3A182	ZUI	Departure	12.2	-	-
05-Jun	14:31	3A164	YFT	Departure	13	-	-
05-Jun	15:10	3A065	YFT	Arrival	11.6	-	-
05-Jun	16:15	3A167	YFT	Departure	12	-	-
05-Jun	16:39	8S218	MFM	Arrival	10.8	-	-
05-Jun	16:41	3A083	ZUI	Arrival	13.2	-	-
05-Jun	17:03	8S126	MFM	Departure	13	-	-
05-Jun	17:03	3A067	YFT	Arrival	11.7	-	-
05-Jun	17:06	3A183	ZUI	Departure	13.3	-	-
05-Jun	19:07	3A166	YFT	Departure	12.3	-	-
05-Jun	19:47	3A084	ZUI	Arrival	12.5	-	-
05-Jun	20:07	3A185	ZUI	Departure	13.6	-	-
05-Jun	20:55	8S2113	MFM	Arrival	12.8	-	-
05-Jun	21:06	3A169	YFT	Departure	12.2	-	-
05-Jun	21:59	8S522	MFM	Departure	13	-	-
06-Jun	08:16	3A061	YFT	Arrival	11.8	-	-
06-Jun	08:26	8S210	MFM	Arrival	12.2	-	-
06-Jun	10:02	3A071	MFM	Arrival	12.7	-	-
06-Jun	10:43	8S212	MFM	Arrival	12.2	-	-
06-Jun	10:45	3A081	ZUI	Arrival	12.9	-	-
06-Jun	11:12	8S121	MFM	Departure	12.3	-	-
06-Jun	11:24	3A063	YFT	Arrival	12.4	-	-
06-Jun	12:21	3A168	YFT	Departure	11.9	-	-
06-Jun	12:22	3A181	ZUI	Departure	13.7	-	-
06-Jun	12:53	8S215	MFM	Arrival	11.4	-	-
06-Jun	12:58	3A064	YFT	Arrival	12.3	-	-
06-Jun	13:21	8S123	MFM	Departure	12.4	-	-
06-Jun	13:56	3A082	ZUI	Arrival	12.8	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
06-Jun	14:17	3A182	ZUI	Departure	11.8	-	-
06-Jun	14:18	3A164	YFT	Departure	12.4	-	-
06-Jun	15:11	3A065	YFT	Arrival	11.8	-	-
06-Jun	16:20	3A167	YFT	Departure	12.2	-	-
06-Jun	16:41	8S218	MFM	Arrival	11.2	-	-
06-Jun	16:42	3A083	ZUI	Arrival	12.9	-	-
06-Jun	17:01	3A067	YFT	Arrival	11.9	-	-
06-Jun	17:15	3A183	ZUI	Departure	12.7	-	-
06-Jun	17:17	8S126	MFM	Departure	12.7	-	-
06-Jun	19:03	3A166	YFT	Departure	13	-	-
06-Jun	19:51	3A084	ZUI	Arrival	13.2	-	-
06-Jun	20:17	3A185	ZUI	Departure	13.8	-	-
06-Jun	20:59	8S2113	MFM	Arrival	12	-	-
06-Jun	21:06	3A169	YFT	Departure	11.7	-	-
06-Jun	21:57	8S522	MFM	Departure	11.7	-	-
07-Jun	08:19	3A061	YFT	Arrival	11.2	-	-
07-Jun	08:34	8S210	MFM	Arrival	11.6	-	-
07-Jun	09:50	3A071	MFM	Arrival	12.5	-	-
07-Jun	10:50	3A081	ZUI	Arrival	13.5	-	-
07-Jun	10:54	8S212	MFM	Arrival	12.3	-	-
07-Jun	11:23	3A063	YFT	Arrival	13	-	-
07-Jun	11:34	8S121	MFM	Departure	12.2	-	-
07-Jun	12:30	3A181	ZUI	Departure	13.1	-	-
07-Jun	12:31	3A168	YFT	Departure	12.2	-	-
07-Jun	12:54	8S215	MFM	Arrival	11.9	-	-
07-Jun	13:04	3A064	YFT	Arrival	11.4	-	-
07-Jun	13:18	8S123	MFM	Departure	13	-	-
07-Jun	13:57	3A082	ZUI	Arrival	13.5	-	-
07-Jun	14:15	3A182	ZUI	Departure	11.5	-	-
07-Jun	14:22	3A164	YFT	Departure	10.4	-	-
07-Jun	15:21	3A065	YFT	Arrival	12.2	-	-
07-Jun	16:21	3A167	YFT	Departure	12.8	-	-
07-Jun	16:44	3A083	ZUI	Arrival	13.1	-	-
07-Jun	16:54	8S218	MFM	Arrival	12.3	-	-
07-Jun	17:00	3A067	YFT	Arrival	11.4	-	-
07-Jun	17:09	3A183	ZUI	Departure	13	-	-
07-Jun	17:11	8S126	MFM	Departure	12.8	-	-
07-Jun	19:01	3A166	YFT	Departure	12.2	-	-
07-Jun	19:47	3A084	ZUI	Arrival	12.9	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
07-Jun	20:05	3A185	ZUI	Departure	13.8	-	-
07-Jun	20:58	8S2113	MFM	Arrival	12.2	-	-
07-Jun	21:10	3A169	YFT	Departure	12.7	-	-
07-Jun	21:59	8S522	MFM	Departure	13.1	-	-
08-Jun	08:27	3A061	YFT	Arrival	13	-	-
08-Jun	08:40	8S210	MFM	Arrival	12.3	-	-
08-Jun	09:54	3A071	MFM	Arrival	12.1	-	-
08-Jun	10:41	8S212	MFM	Arrival	13	-	-
08-Jun	10:43	3A081	ZUI	Arrival	12.9	-	-
08-Jun	11:10	8S121	MFM	Departure	13.3	-	-
08-Jun	11:19	3A063	YFT	Arrival	11	-	-
08-Jun	11:56	8S213	MFM	Arrival	12.9	-	-
08-Jun	12:12	3A181	ZUI	Departure	13.7	-	-
08-Jun	12:21	3A168	YFT	Departure	10.3	-	-
08-Jun	12:49	8S215	MFM	Arrival	10.2	-	-
08-Jun	12:59	3A064	YFT	Arrival	13.4	-	-
08-Jun	13:17	8S123	MFM	Departure	11.4	-	-
08-Jun	13:46	3A082	ZUI	Arrival	12.1	-	-
08-Jun	14:19	3A182	ZUI	Departure	12.6	-	-
08-Jun	14:20	3A164	YFT	Departure	13.2	-	-
08-Jun	15:08	3A065	YFT	Arrival	11.8	-	-
08-Jun	16:17	3A167	YFT	Departure	9.9	-	-
08-Jun	16:38	8S218	MFM	Arrival	10.8	-	-
08-Jun	16:46	3A083	ZUI	Arrival	12.5	-	-
08-Jun	17:01	8S126	MFM	Departure	12.8	-	-
08-Jun	17:03	3A183	ZUI	Departure	13.5	-	-
08-Jun	17:10	3A067	YFT	Arrival	12.5	<= 5	< 1min
08-Jun	19:22	3A166	YFT	Departure	12.3	-	-
08-Jun	19:54	3A084	ZUI	Arrival	12.2	-	-
08-Jun	20:12	3A185	ZUI	Departure	13.7	-	-
08-Jun	20:56	8S2113	MFM	Arrival	12.3	-	-
08-Jun	21:02	3A169	YFT	Departure	12.8	-	-
08-Jun	21:56	8S522	MFM	Departure	13.3	-	-
09-Jun	08:22	3A061	YFT	Arrival	11.5	-	-
09-Jun	08:33	8S210	MFM	Arrival	10.4	-	-
09-Jun	09:48	3A071	MFM	Arrival	11.7	-	-
09-Jun	10:45	8S212	MFM	Arrival	12.1	-	-
09-Jun	10:45	3A081	ZUI	Arrival	12.7	-	-
09-Jun	11:08	8S121	MFM	Departure	11.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MEM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
09-Jun	11:22	3A063	YFT	Arrival	12.8	-	-
09-Jun	12:14	3A181	ZUI	Departure	13.8	-	-
09-Jun	12:19	3A168	YFT	Departure	12.3	-	-
09-Jun	12:49	8S215	MFM	Arrival	12.3	-	-
09-Jun	12:59	3A064	YFT	Arrival	11.7	-	-
09-Jun	13:22	8S123	MFM	Departure	12.1	-	-
09-Jun	13:49	3A082	ZUI	Arrival	12.8	-	-
09-Jun	14:11	3A182	ZUI	Departure	13.1	-	-
09-Jun	14:18	3A164	YFT	Departure	11.7	-	-
09-Jun	15:04	3A065	YFT	Arrival	13.1	-	-
09-Jun	16:14	3A167	YFT	Departure	12.2	-	-
09-Jun	16:40	3A083	ZUI	Arrival	12.7	-	-
09-Jun	16:44	8S218	MFM	Arrival	11.2	-	-
09-Jun	17:00	3A183	ZUI	Departure	11.4	-	-
09-Jun	17:07	3A067	YFT	Arrival	12	<= 5	< 1min
09-Jun	17:18	8S126	MFM	Departure	12	-	-
09-Jun	19:00	3A166	YFT	Departure	No AIS Data		
09-Jun	19:51	3A084	ZUI	Arrival	11.7	-	-
09-Jun	20:15	3A185	ZUI	Departure	12	-	-
09-Jun	20:56	8S2113	MFM	Arrival	13.2	-	-
09-Jun	20:58	3A169	YFT	Departure	11.9	-	-
09-Jun	21:57	8S522	MFM	Departure	12.5	-	-
10-Jun	08:17	3A061	YFT	Arrival	11.7	-	-
10-Jun	08:27	8S210	MFM	Arrival	11	-	-
10-Jun	09:53	3A071	MFM	Arrival	13	-	-
10-Jun	10:42	8S212	MFM	Arrival	12	-	-
10-Jun	10:44	3A081	ZUI	Arrival	13.7	-	-
10-Jun	11:05	8S121	MFM	Departure	12.3	-	-
10-Jun	11:17	3A063	YFT	Arrival	No AIS Data		
10-Jun	12:15	3A181	ZUI	Departure	13	-	-
10-Jun	12:16	3A168	YFT	Departure	No AIS Data		
10-Jun	12:47	8S215	MFM	Arrival	12.4	-	-
10-Jun	13:03	3A064	YFT	Arrival	12.1	-	-
10-Jun	13:16	8S123	MFM	Departure	12.8	-	-
10-Jun	13:45	3A082	ZUI	Arrival	12.1	-	-
10-Jun	14:15	3A182	ZUI	Departure	12.2	-	-
10-Jun	14:17	3A164	YFT	Departure	12.5	-	-
10-Jun	15:02	3A065	YFT	Arrival	No AIS Data		
10-Jun	16:11	3A167	YFT	Departure	No AIS Data		

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
10-Jun	16:40	3A083	ZUI	Arrival	13.4	-	-
10-Jun	16:45	8S218	MFM	Arrival	12.7	-	-
10-Jun	17:00	3A183	ZUI	Departure	12.5	-	-
10-Jun	17:00	3A067	YFT	Arrival	11.9	-	-
10-Jun	17:09	8S126	MFM	Departure	13	-	-
10-Jun	18:59	3A166	YFT	Departure	12.5	-	-
10-Jun	19:50	3A084	ZUI	Arrival	12.7	-	-
10-Jun	20:09	3A185	ZUI	Departure	13.5	-	-
10-Jun	20:51	8S2113	MFM	Arrival	11.8	-	-
10-Jun	20:59	3A169	YFT	Departure	12.9	-	-
10-Jun	21:55	8S522	MFM	Departure	12.7	-	-
11-Jun	08:18	3A061	YFT	Arrival	12.1	-	-
11-Jun	08:25	8S210	MFM	Arrival	12.7	-	-
11-Jun	10:06	3A071	MFM	Arrival	11.6	-	-
11-Jun	10:43	3A081	ZUI	Arrival	13.1	-	-
11-Jun	10:46	8S212	MFM	Arrival	13.1	-	-
11-Jun	11:29	8S121	MFM	Departure	12.3	-	-
11-Jun	11:35	3A063	YFT	Arrival	11.3	-	-
11-Jun	12:14	3A168	YFT	Departure	11.5	-	-
11-Jun	12:16	3A181	ZUI	Departure	13.6	-	-
11-Jun	12:48	8S215	MFM	Arrival	13	-	-
11-Jun	13:00	3A064	YFT	Arrival	11.6	-	-
11-Jun	13:18	8S123	MFM	Departure	12.7	-	-
11-Jun	13:46	3A082	ZUI	Arrival	13.4	-	-
11-Jun	14:21	3A164	YFT	Departure	12.6	-	-
11-Jun	14:23	3A182	ZUI	Departure	12	-	-
11-Jun	15:01	3A065	YFT	Arrival	12	-	-
11-Jun	16:23	3A167	YFT	Departure	11.8	-	-
11-Jun	16:43	8S218	MFM	Arrival	13.2	-	-
11-Jun	16:45	3A083	ZUI	Arrival	13.1	-	-
11-Jun	17:04	3A067	YFT	Arrival	11.7	-	-
11-Jun	17:12	3A183	ZUI	Departure	12.4	<= 5	< 1min
11-Jun	17:16	8S126	MFM	Departure	11.9	-	-
11-Jun	19:10	3A166	YFT	Departure	13	-	-
11-Jun	19:57	3A084	ZUI	Arrival	12.4	-	-
11-Jun	20:17	3A185	ZUI	Departure	13.7	-	-
11-Jun	21:00	8S2113	MFM	Arrival	11.8	-	-
11-Jun	21:07	3A169	YFT	Departure	13.7	> 15	< 1min
11-Jun	21:57	8S522	MFM	Departure	12.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
12-Jun	08:11	3A061	YFT	Arrival	13.5	-	-
12-Jun	08:31	8S210	MFM	Arrival	12.9	-	-
12-Jun	09:47	3A071	MFM	Arrival	11.7	-	-
12-Jun	10:40	8S212	MFM	Arrival	11	-	-
12-Jun	10:45	3A081	ZUI	Arrival	12.7	-	-
12-Jun	11:13	8S121	MFM	Departure	11.9	-	-
12-Jun	11:18	3A063	YFT	Arrival	12.1	-	-
12-Jun	12:21	3A168	YFT	Departure	11.9	-	-
12-Jun	12:29	3A181	ZUI	Departure	13.3	-	-
12-Jun	13:00	8S215	MFM	Arrival	11.6	-	-
12-Jun	13:03	3A064	YFT	Arrival	11.3	-	-
12-Jun	13:47	8S123	MFM	Departure	13	-	-
12-Jun	13:56	3A082	ZUI	Arrival	12.1	-	-
12-Jun	14:09	3A164	YFT	Departure	10.7	-	-
12-Jun	14:10	3A182	ZUI	Departure	12.4	-	-
12-Jun	15:04	3A065	YFT	Arrival	11.7	-	-
12-Jun	16:21	3A167	YFT	Departure	11.3	-	-
12-Jun	16:44	3A083	ZUI	Arrival	12.9	-	-
12-Jun	16:46	8S218	MFM	Arrival	11.2	-	-
12-Jun	17:02	3A067	YFT	Arrival	10.9	-	-
12-Jun	17:05	3A183	ZUI	Departure	12.7	-	-
13-Jun	08:22	3A061	YFT	Arrival	12.2	-	-
13-Jun	08:42	8S210	MFM	Arrival	10.9	-	-
13-Jun	09:49	3A071	MFM	Arrival	11.6	-	-
13-Jun	10:39	8S212	MFM	Arrival	12.9	-	-
13-Jun	10:43	3A081	ZUI	Arrival	12.8	-	-
13-Jun	11:20	8S121	MFM	Departure	13.3	-	-
13-Jun	11:21	3A063	YFT	Arrival	12.1	-	-
13-Jun	12:12	3A181	ZUI	Departure	13.4	-	-
13-Jun	12:15	3A168	YFT	Departure	13	-	-
13-Jun	12:54	8S215	MFM	Arrival	12.5	-	-
13-Jun	13:06	3A064	YFT	Arrival	12.9	-	-
13-Jun	13:19	8S123	MFM	Departure	12.9	-	-
13-Jun	13:56	3A082	ZUI	Arrival	13	-	-
13-Jun	14:14	3A164	YFT	Departure	12	-	-
13-Jun	14:15	3A182	ZUI	Departure	12.6	-	-
13-Jun	14:59	3A065	YFT	Arrival	12.8	-	-
13-Jun	16:20	3A167	YFT	Departure	13.2	-	-
13-Jun	16:42	3A083	ZUI	Arrival	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
13-Jun	16:47	8S218	MFM	Arrival	12.2	-	-
13-Jun	17:04	8S126	MFM	Departure	12.9	-	-
13-Jun	17:07	3A183	ZUI	Departure	12.6	-	-
13-Jun	17:13	3A067	YFT	Arrival	12.4	<= 5	< 1min
13-Jun	19:05	3A166	YFT	Departure	12.1	-	-
13-Jun	19:50	3A084	ZUI	Arrival	12.9	-	-
13-Jun	20:09	3A185	ZUI	Departure	13.6	-	-
13-Jun	21:01	8S2113	MFM	Arrival	12.1	-	-
13-Jun	21:02	3A169	YFT	Departure	11.9	-	-
14-Jun	08:17	3A061	YFT	Arrival	13	-	-
14-Jun	08:33	8S210	MFM	Arrival	12	-	-
14-Jun	09:54	3A071	MFM	Arrival	11.5	-	-
14-Jun	10:40	8S212	MFM	Arrival	11.8	-	-
14-Jun	10:44	3A081	ZUI	Arrival	12.7	-	-
14-Jun	11:26	3A063	YFT	Arrival	13.4	-	-
14-Jun	11:29	8S121	MFM	Departure	12.3	-	-
14-Jun	12:22	3A168	YFT	Departure	13.5	-	-
14-Jun	12:26	3A181	ZUI	Departure	12.9	-	-
14-Jun	12:52	8S215	MFM	Arrival	11.1	-	-
14-Jun	13:00	3A064	YFT	Arrival	13.3	-	-
14-Jun	13:17	8S123	MFM	Departure	12	-	-
14-Jun	13:56	3A082	ZUI	Arrival	12.5	-	-
14-Jun	14:15	3A164	YFT	Departure	13.7	-	-
14-Jun	14:16	3A182	ZUI	Departure	13.3	-	-
14-Jun	15:00	3A065	YFT	Arrival	13.4	-	-
14-Jun	16:27	3A167	YFT	Departure	13.5	-	-
14-Jun	16:38	3A083	ZUI	Arrival	13.3	-	-
14-Jun	16:41	8S218	MFM	Arrival	11.4	-	-
14-Jun	16:59	3A067	YFT	Arrival	13.4	-	-
14-Jun	17:04	8S126	MFM	Departure	12.8	-	-
14-Jun	17:10	3A183	ZUI	Departure	12.6	-	-
14-Jun	19:04	3A166	YFT	Departure	11.4	-	-
14-Jun	19:50	3A084	ZUI	Arrival	12.9	-	-
14-Jun	20:06	3A185	ZUI	Departure	13.3	-	-
14-Jun	21:03	3A169	YFT	Departure	11.4	-	-
14-Jun	21:11	8S2113	MFM	Arrival	11.6	-	-
14-Jun	21:57	8S522	MFM	Departure	12.2	-	-
15-Jun	08:19	3A061	YFT	Arrival	12.2	-	-
15-Jun	08:30	8S210	MFM	Arrival	12	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
15-Jun	09:55	3A071	MFM	Arrival	12.8	-	-
15-Jun	10:41	8S212	MFM	Arrival	11.3	-	-
15-Jun	10:48	3A081	ZUI	Arrival	13.1	-	-
15-Jun	11:15	3A063	YFT	Arrival	12.4	-	-
15-Jun	11:20	8S121	MFM	Departure	11.3	-	-
15-Jun	12:15	3A168	YFT	Departure	12	-	-
15-Jun	12:17	3A181	ZUI	Departure	12.8	-	-
15-Jun	12:56	8S215	MFM	Arrival	11.9	-	-
15-Jun	13:02	3A064	YFT	Arrival	12	-	-
15-Jun	13:17	8S123	MFM	Departure	11.1	-	-
15-Jun	13:50	3A082	ZUI	Arrival	12.4	-	-
15-Jun	14:15	3A182	ZUI	Departure	12.4	-	-
15-Jun	14:19	3A164	YFT	Departure	11.9	-	-
15-Jun	14:58	3A065	YFT	Arrival	12.5	-	-
15-Jun	16:23	3A167	YFT	Departure	12.3	-	-
15-Jun	16:42	3A083	ZUI	Arrival	13.2	-	-
15-Jun	16:47	8S218	MFM	Arrival	11.5	-	-
15-Jun	17:03	3A067	YFT	Arrival	12.9	-	-
15-Jun	17:09	3A183	ZUI	Departure	12.2	-	-
15-Jun	17:14	8S126	MFM	Departure	12.1	-	-
15-Jun	19:00	3A166	YFT	Departure	12.9	-	-
15-Jun	19:50	3A084	ZUI	Arrival	12.7	-	-
15-Jun	20:09	3A185	ZUI	Departure	12.7	-	-
15-Jun	20:58	8S2113	MFM	Arrival	12.6	-	-
15-Jun	21:02	3A169	YFT	Departure	12.7	-	-
15-Jun	22:03	8S522	MFM	Departure	12.6	-	-
16-Jun	08:23	3A061	YFT	Arrival	12	-	-
16-Jun	08:34	8S210	MFM	Arrival	12.1	-	-
16-Jun	09:47	3A071	MFM	Arrival	13		
16-Jun	10:41	8S212	MFM	Arrival	11.3	-	-
16-Jun	10:47	3A081	ZUI	Arrival	12.1	-	-
16-Jun	11:10	8S121	MFM	Departure	12.1	-	-
16-Jun	11:19	3A063	YFT	Arrival	12.4	-	-
16-Jun	12:05	3A161	YFT	Departure	12.3	-	-
16-Jun	12:22	3A181	ZUI	Departure	13.1	-	-
16-Jun	12:25	3A168	YFT	Departure	13.3	-	-
16-Jun	12:44	8S215	MFM	Arrival	12.6	-	-
16-Jun	13:03	3A064	YFT	Arrival	11.7	-	-
16-Jun	13:16	8S123	MFM	Departure	12.6	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
16-Jun	13:44	3A082	ZUI	Arrival	13.4	-	-
16-Jun	14:14	3A182	ZUI	Departure	11.9	-	-
16-Jun	14:16	3A164	YFT	Departure	12.5	-	-
16-Jun	15:14	3A065	YFT	Arrival	12.5	-	-
16-Jun	16:15	3A167	YFT	Departure	12.7	-	-
16-Jun	16:37	8S218	MFM	Arrival	11.8	-	-
16-Jun	16:42	3A083	ZUI	Arrival	12.2	-	-
16-Jun	17:02	3A183	ZUI	Departure	12.6	-	-
16-Jun	17:10	3A067	YFT	Arrival	11.3	-	-
16-Jun	17:10	8S126	MFM	Departure	12.7	-	-
16-Jun	19:07	3A166	YFT	Departure	12.7	-	-
16-Jun	19:51	3A084	ZUI	Arrival	12.3	-	-
16-Jun	20:15	3A185	ZUI	Departure	12.3	-	-
16-Jun	20:58	8S2113	MFM	Arrival	11.7	-	-
16-Jun	21:05	3A169	YFT	Departure	12.9	-	-
16-Jun	22:00	8S522	MFM	Departure	12.1	-	-
17-Jun	08:21	3A061	YFT	Arrival	11	<= 5	< 2min
17-Jun	08:59	8S210	MFM	Arrival	12.8	-	-
17-Jun	09:57	3A071	MFM	Arrival	11.8	-	-
17-Jun	10:37	8S212	MFM	Arrival	12.1	-	-
17-Jun	10:50	3A081	ZUI	Arrival	12.3	-	-
17-Jun	11:07	8S121	MFM	Departure	12	-	-
17-Jun	11:26	3A063	YFT	Arrival	11.5	-	-
17-Jun	12:11	3A168	YFT	Departure	11	-	-
17-Jun	12:16	3A181	ZUI	Departure	13.5	-	-
17-Jun	12:59	3A064	YFT	Arrival	11.8	-	-
17-Jun	13:00	8S215	MFM	Arrival	11.3	-	-
17-Jun	13:24	8S123	MFM	Departure	11.4	-	-
17-Jun	13:48	3A082	ZUI	Arrival	13.1	-	-
17-Jun	14:15	3A164	YFT	Departure	12.6	-	-
17-Jun	14:16	3A182	ZUI	Departure	12.8	-	-
17-Jun	15:03	3A065	YFT	Arrival	11.8	-	-
17-Jun	16:22	3A167	YFT	Departure	12.6	-	-
17-Jun	16:41	8S218	MFM	Arrival	11.7	-	-
17-Jun	16:41	3A083	ZUI	Arrival	13.8	-	-
17-Jun	17:01	3A067	YFT	Arrival	12.8	-	-
17-Jun	17:03	3A183	ZUI	Departure	13.2	-	-
17-Jun	17:12	8S126	MFM	Departure	10.8	-	-
17-Jun	19:04	3A166	YFT	Departure	12.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
17-Jun	19:46	3A084	ZUI	Arrival	13.4		
17-Jun	20:11	3A185	ZUI	Departure	13.1	-	-
17-Jun	21:03	8S2113	MFM	Arrival	11.4	-	-
17-Jun	21:06	3A169	YFT	Departure	11.8	-	-
17-Jun	22:03	8S522	MFM	Departure	12.6	-	-
18-Jun	08:15	3A061	YFT	Arrival	13.5	-	-
18-Jun	08:32	8S210	MFM	Arrival	12.2	-	-
18-Jun	10:01	3A071	MFM	Arrival	11.1	-	-
18-Jun	10:45	3A081	ZUI	Arrival	12.3	-	-
18-Jun	10:47	8S212	MFM	Arrival	11.8	-	-
18-Jun	11:12	8S121	MFM	Departure	11.8	-	-
18-Jun	11:22	3A063	YFT	Arrival	12.9	-	-
18-Jun	12:19	3A168	YFT	Departure	13.5	-	-
18-Jun	12:23	3A181	ZUI	Departure	13.2	-	-
18-Jun	12:48	8S215	MFM	Arrival	12	-	-
18-Jun	12:55	3A064	YFT	Arrival	13.1	-	-
18-Jun	13:15	8S123	MFM	Departure	11.9	-	-
18-Jun	13:47	3A082	ZUI	Arrival	12.9	-	-
18-Jun	14:16	3A182	ZUI	Departure	12.1	-	-
18-Jun	14:25	3A164	YFT	Departure	13.8	-	-
18-Jun	15:00	3A065	YFT	Arrival	13.1	-	-
18-Jun	16:20	3A167	YFT	Departure	13.5	-	-
18-Jun	16:49	3A083	ZUI	Arrival	12.9	-	-
18-Jun	16:51	8S218	MFM	Arrival	12	-	-
18-Jun	16:55	3A067	YFT	Arrival	13.8	-	-
18-Jun	17:13	3A183	ZUI	Departure	12.9	-	-
18-Jun	17:18	8S126	MFM	Departure	13	-	-
18-Jun	19:09	3A166	YFT	Departure	12.7	-	-
18-Jun	19:59	3A084	ZUI	Arrival	12.6	-	-
18-Jun	20:25	3A185	ZUI	Departure	12.5	-	-
18-Jun	20:56	8S2113	MFM	Arrival	12.3	-	-
18-Jun	21:03	3A169	YFT	Departure	12.3	-	-
18-Jun	22:08	8S522	MFM	Departure	10.4	-	-
19-Jun	08:16	3A061	YFT	Arrival	12.8	-	-
19-Jun	09:07	8S210	MFM	Arrival	12	-	-
19-Jun	09:48	3A071	MFM	Arrival	12.7	-	-
19-Jun	10:47	3A081	ZUI	Arrival	13.1	-	-
19-Jun	10:51	8S212	MFM	Arrival	12.2	-	-
19-Jun	11:15	8S121	MFM	Departure	11.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
19-Jun	11:24	3A063	YFT	Arrival	12.8	-	-
19-Jun	12:21	3A181	ZUI	Departure	12.6	-	-
19-Jun	12:24	3A168	YFT	Departure	13.4	-	-
19-Jun	12:46	8S215	MFM	Arrival	12.6	-	-
19-Jun	12:58	3A064	YFT	Arrival	12.5	-	-
19-Jun	13:22	8S123	MFM	Departure	13.1	-	-
19-Jun	14:02	3A082	ZUI	Arrival	13.4	-	-
19-Jun	14:18	3A182	ZUI	Departure	12.9	-	-
19-Jun	14:25	3A164	YFT	Departure	12.3	-	-
19-Jun	15:06	3A065	YFT	Arrival	12.5	-	-
19-Jun	16:18	3A167	YFT	Departure	13	-	-
19-Jun	16:41	3A083	ZUI	Arrival	12.5	-	-
19-Jun	16:45	8S218	MFM	Arrival	11.7	-	-
19-Jun	17:07	3A183	ZUI	Departure	13.2	-	-
19-Jun	17:10	3A067	YFT	Arrival	13	-	-
19-Jun	17:20	8S126	MFM	Departure	13.2	-	-
19-Jun	19:03	3A166	YFT	Departure	13.1	-	-
19-Jun	19:50	3A084	ZUI	Arrival	12.4	-	-
19-Jun	20:15	3A185	ZUI	Departure	13.1	-	-
19-Jun	21:00	8S2113	MFM	Arrival	12.4	-	-
19-Jun	21:02	3A169	YFT	Departure	12.3	-	-
19-Jun	22:07	8S522	MFM	Departure	12.3	-	-
20-Jun	08:19	3A061	YFT	Arrival	12.6	-	-
20-Jun	08:27	8S210	MFM	Arrival	13.1	-	-
20-Jun	09:54	3A071	MFM	Arrival	13.7	-	-
20-Jun	10:45	8S212	MFM	Arrival	12.3	-	-
20-Jun	10:50	3A081	ZUI	Arrival	12.7	-	-
20-Jun	11:09	8S121	MFM	Departure	12	-	-
20-Jun	11:18	3A063	YFT	Arrival	11.8	-	-
20-Jun	12:14	3A168	YFT	Departure	12.1	-	-
20-Jun	12:17	3A181	ZUI	Departure	13.3	-	-
20-Jun	12:46	8S215	MFM	Arrival	11.8	-	-
20-Jun	13:03	3A064	YFT	Arrival	12.3	-	-
20-Jun	13:19	8S123	MFM	Departure	12.1	-	-
20-Jun	13:56	3A082	ZUI	Arrival	12.8	-	-
20-Jun	14:22	3A164	YFT	Departure	12.8	-	-
20-Jun	14:24	3A182	ZUI	Departure	13.1	-	-
20-Jun	15:01	3A065	YFT	Arrival	11.6	-	-
20-Jun	16:14	3A167	YFT	Departure	11.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
20-Jun	16:42	3A083	ZUI	Arrival	12.6	-	-
20-Jun	16:51	8S218	MFM	Arrival	10.9	-	-
20-Jun	17:04	3A067	YFT	Arrival	12.7	-	-
20-Jun	17:11	3A183	ZUI	Departure	13.3	-	-
20-Jun	17:13	8S126	MFM	Departure	12.7	-	-
20-Jun	19:04	3A166	YFT	Departure	13.3	-	-
20-Jun	19:47	3A084	ZUI	Arrival	12.9	-	-
20-Jun	20:17	3A185	ZUI	Departure	13.3	-	-
20-Jun	20:56	8S2113	MFM	Arrival	12.7	-	-
20-Jun	20:57	3A169	YFT	Departure	12.9	-	-
20-Jun	22:00	8S522	MFM	Departure	12.8	-	-
21-Jun	08:21	3A061	YFT	Arrival	13.1	-	-
21-Jun	08:31	8S210	MFM	Arrival	10.6	-	-
21-Jun	10:07	3A071	MFM	Arrival	12.5	-	-
21-Jun	10:45	8S212	MFM	Arrival	12.4	-	-
21-Jun	10:46	3A081	ZUI	Arrival	12.3	-	-
21-Jun	11:15	8S121	MFM	Departure	12.6	-	-
21-Jun	11:23	3A063	YFT	Arrival	12.7	-	-
21-Jun	12:17	3A181	ZUI	Departure	13.3	-	-
21-Jun	12:21	3A168	YFT	Departure	12.3	-	-
21-Jun	12:50	8S215	MFM	Arrival	13.1	-	-
21-Jun	13:04	3A064	YFT	Arrival	12.6	-	-
21-Jun	13:18	8S123	MFM	Departure	12.9	-	-
21-Jun	13:47	3A082	ZUI	Arrival	11.9	-	-
21-Jun	14:24	3A182	ZUI	Departure	12.8	-	-
21-Jun	14:25	3A164	YFT	Departure	13	-	-
21-Jun	15:09	3A065	YFT	Arrival	12.1	-	-
21-Jun	16:18	3A167	YFT	Departure	11.8	-	-
21-Jun	16:38	3A083	ZUI	Arrival	12.3	-	-
21-Jun	16:43	8S218	MFM	Arrival	13	-	-
21-Jun	17:05	3A067	YFT	Arrival	13.2	-	-
21-Jun	17:14	8S126	MFM	Departure	12.8	-	-
21-Jun	17:19	3A183	ZUI	Departure	13.1	-	-
21-Jun	19:07	3A166	YFT	Departure	12.4	-	-
21-Jun	19:55	3A084	ZUI	Arrival	12.8	-	-
21-Jun	20:10	3A185	ZUI	Departure	13.1	-	-
21-Jun	21:00	8S2113	MFM	Arrival	11.5	-	-
21-Jun	21:06	3A169	YFT	Departure	12.3	-	-
21-Jun	21:58	8S522	MFM	Departure	12.6	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
22-Jun	08:23	3A061	YFT	Arrival	10.8	-	-
22-Jun	08:27	8S210	MFM	Arrival	12.9	-	-
22-Jun	09:53	3A071	MFM	Arrival	12.3	-	-
22-Jun	10:39	8S212	MFM	Arrival	12.5	-	-
22-Jun	10:46	3A081	ZUI	Arrival	13.4	-	-
22-Jun	11:10	8S121	MFM	Departure	12.3	-	-
22-Jun	11:20	3A063	YFT	Arrival	11.4	-	-
22-Jun	12:12	3A181	ZUI	Departure	13	-	-
22-Jun	12:16	3A168	YFT	Departure	11.7	-	-
22-Jun	12:49	8S215	MFM	Arrival	12.7	-	-
22-Jun	13:02	3A064	YFT	Arrival	11.5	-	-
22-Jun	13:11	8S123	MFM	Departure	11.6	-	-
22-Jun	13:48	3A082	ZUI	Arrival	11.8	-	-
22-Jun	14:15	3A182	ZUI	Departure	12.2	-	-
22-Jun	14:17	3A164	YFT	Departure	11.4	-	-
22-Jun	15:01	3A065	YFT	Arrival	11.5	-	-
22-Jun	16:18	3A167	YFT	Departure	12.7	-	-
22-Jun	16:44	3A083	ZUI	Arrival	12.4	-	-
22-Jun	16:47	8S218	MFM	Arrival	12.5	-	-
22-Jun	17:01	3A183	ZUI	Departure	12.4	-	-
22-Jun	17:04	3A067	YFT	Arrival	11.1	-	-
22-Jun	17:06	8S126	MFM	Departure	13.4	-	-
22-Jun	19:05	3A166	YFT	Departure	11.5	-	-
22-Jun	19:48	3A084	ZUI	Arrival	12.3	-	-
22-Jun	20:12	3A185	ZUI	Departure	13.2	-	-
22-Jun	20:48	8S2113	MFM	Arrival	13.5	-	-
22-Jun	21:07	3A169	YFT	Departure	12	-	-
22-Jun	21:56	8S522	MFM	Departure	13.5	-	-
23-Jun	08:20	3A061	YFT	Arrival	12.8	-	-
23-Jun	08:35	8S210	MFM	Arrival	12.2	-	-
23-Jun	09:51	3A071	MFM	Arrival	12	-	-
23-Jun	10:35	8S212	MFM	Arrival	12.7	-	-
23-Jun	10:49	3A081	ZUI	Arrival	12.9	-	-
23-Jun	11:02	8S121	MFM	Departure	12.8	-	-
23-Jun	11:16	3A063	YFT	Arrival	12.3	-	-
23-Jun	12:15	3A181	ZUI	Departure	13.1	-	-
23-Jun	12:18	3A168	YFT	Departure	10.2	-	-
23-Jun	12:38	8S215	MFM	Arrival	12.5	-	-
23-Jun	12:57	3A064	YFT	Arrival	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
23-Jun	13:15	8S123	MFM	Departure	12.2	-	-
23-Jun	13:42	3A082	ZUI	Arrival	11.9	-	-
23-Jun	14:20	3A182	ZUI	Departure	12.4	-	-
23-Jun	14:24	3A164	YFT	Departure	12.8	-	-
23-Jun	15:03	3A065	YFT	Arrival	12.5	<= 5	< 2min
23-Jun	16:19	3A167	YFT	Departure	10	-	-
23-Jun	16:40	3A083	ZUI	Arrival	12.3	-	-
23-Jun	16:45	8S218	MFM	Arrival	12.4	-	-
23-Jun	17:02	3A183	ZUI	Departure	11.5	-	-
23-Jun	17:02	8S126	MFM	Departure	12.7	-	-
23-Jun	17:08	3A067	YFT	Arrival	12.2	-	-
23-Jun	19:05	3A166	YFT	Departure	12.5	-	-
23-Jun	20:05	3A084	ZUI	Arrival	12.3	-	-
23-Jun	20:24	3A185	ZUI	Departure	13.2	-	-
23-Jun	20:57	8S2113	MFM	Arrival	12.5	-	-
23-Jun	20:59	3A169	YFT	Departure	11.8	-	-
23-Jun	22:01	8S522	MFM	Departure	12.9	-	-
24-Jun	08:18	3A061	YFT	Arrival	12	-	-
24-Jun	08:32	8S210	MFM	Arrival	10.3	-	-
24-Jun	10:00	3A071	MFM	Arrival	11.4	-	-
24-Jun	10:41	8S212	MFM	Arrival	12.1	-	-
24-Jun	10:51	3A081	ZUI	Arrival	13.3	-	-
24-Jun	11:06	8S121	MFM	Departure	11.9	-	-
24-Jun	11:18	3A063	YFT	Arrival	12.4	-	-
24-Jun	12:17	3A168	YFT	Departure	12.3	-	-
24-Jun	12:18	3A181	ZUI	Departure	12	-	-
24-Jun	12:49	8S215	MFM	Arrival	12.2	-	-
24-Jun	13:05	3A064	YFT	Arrival	11.8	-	-
24-Jun	13:16	8S123	MFM	Departure	12.6	-	-
24-Jun	13:47	3A082	ZUI	Arrival	12.1	-	-
24-Jun	14:10	3A182	ZUI	Departure	12.3	-	-
24-Jun	14:15	3A164	YFT	Departure	12.6	-	-
24-Jun	15:01	3A065	YFT	Arrival	12.7	-	-
24-Jun	16:17	3A167	YFT	Departure	12.1	<= 5	< 1min
24-Jun	16:41	3A083	ZUI	Arrival	12.7	-	-
24-Jun	16:44	8S218	MFM	Arrival	12.1	-	-
24-Jun	17:02	3A067	YFT	Arrival	12.2	<= 5	< 1min
24-Jun	17:03	8S126	MFM	Departure	12.4	-	-
24-Jun	17:05	3A183	ZUI	Departure	13.3	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
24-Jun	19:05	3A166	YFT	Departure	12.1	-	-
24-Jun	19:45	3A084	ZUI	Arrival	12.3	-	-
24-Jun	20:06	3A185	ZUI	Departure	13.5	-	-
24-Jun	20:52	8S2113	MFM	Arrival	13	-	-
24-Jun	20:57	3A169	YFT	Departure	13	-	-
24-Jun	21:56	8S522	MFM	Departure	13.4	-	-
25-Jun	08:19	3A061	YFT	Arrival	11.7	-	-
25-Jun	08:32	8S210	MFM	Arrival	12	-	-
25-Jun	10:05	3A071	MFM	Arrival	12.1	-	-
25-Jun	10:42	3A081	ZUI	Arrival	12.9	-	-
25-Jun	10:47	8S212	MFM	Arrival	12.4	-	-
25-Jun	11:11	3A063	YFT	Arrival	13.5	-	-
25-Jun	11:28	8S121	MFM	Departure	12.1	-	-
25-Jun	12:26	3A168	YFT	Departure	13.9	-	-
25-Jun	12:27	3A181	ZUI	Departure	13.6	-	-
25-Jun	12:56	8S215	MFM	Arrival	13.3	-	-
25-Jun	12:58	3A064	YFT	Arrival	12.5	-	-
25-Jun	13:18	8S123	MFM	Departure	12.7	-	-
25-Jun	13:47	3A082	ZUI	Arrival	13	-	-
25-Jun	14:18	3A164	YFT	Departure	12.3	-	-
25-Jun	14:19	3A182	ZUI	Departure	11.7	-	-
25-Jun	15:07	3A065	YFT	Arrival	13.2	-	-
25-Jun	16:23	3A167	YFT	Departure	13.2	-	-
25-Jun	16:47	8S218	MFM	Arrival	12.1	-	-
25-Jun	16:48	3A083	ZUI	Arrival	12.9	-	-
25-Jun	17:01	3A067	YFT	Arrival	11.8	-	-
25-Jun	17:06	8S126	MFM	Departure	12.1	-	-
25-Jun	17:11	3A183	ZUI	Departure	12.5	-	-
25-Jun	19:24	3A166	YFT	Departure	12.3	-	-
25-Jun	19:53	3A084	ZUI	Arrival	12.1	-	-
25-Jun	20:10	3A185	ZUI	Departure	13.5	-	-
25-Jun	20:57	8S2113	MFM	Arrival	11.4	-	-
25-Jun	21:07	3A169	YFT	Departure	11.8	-	-
25-Jun	21:57	8S522	MFM	Departure	12.8	-	-
26-Jun	08:23	3A061	YFT	Arrival	10.1	-	-
26-Jun	08:31	8S210	MFM	Arrival	12.8	-	-
26-Jun	10:00	3A071	MFM	Arrival	11.2	-	-
26-Jun	10:46	3A081	ZUI	Arrival	12.6	-	-
26-Jun	10:48	8S212	MFM	Arrival	13.2	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
26-Jun	11:19	3A063	YFT	Arrival	12.2	-	-
26-Jun	11:19	8S121	MFM	Departure	12.7	-	-
26-Jun	12:11	3A181	ZUI	Departure	12.7	-	-
26-Jun	12:25	3A168	YFT	Departure	12.8	-	-
26-Jun	12:50	8S215	MFM	Arrival	11.3	-	-
26-Jun	13:02	3A064	YFT	Arrival	12.2	-	-
26-Jun	13:18	8S123	MFM	Departure	10.3	-	-
26-Jun	13:49	3A082	ZUI	Arrival	12	-	-
26-Jun	14:18	3A164	YFT	Departure	13.1	-	-
26-Jun	14:19	3A182	ZUI	Departure	12.9	-	-
26-Jun	15:10	3A065	YFT	Arrival	12.5	-	-
26-Jun	16:18	3A167	YFT	Departure	12.2	-	-
26-Jun	16:45	3A083	ZUI	Arrival	12.9	-	-
26-Jun	16:53	8S218	MFM	Arrival	12.2	-	-
26-Jun	17:01	3A067	YFT	Arrival	12.1	-	-
26-Jun	17:10	3A183	ZUI	Departure	11.5	-	-
26-Jun	17:17	8S126	MFM	Departure	11.5	-	-
26-Jun	19:05	3A166	YFT	Departure	12.1	-	-
26-Jun	20:06	3A084	ZUI	Arrival	11.6	-	-
26-Jun	20:32	3A185	ZUI	Departure	13.5	-	-
26-Jun	21:01	8S2113	MFM	Arrival	11.7	-	-
26-Jun	21:08	3A169	YFT	Departure	12.3	-	-
26-Jun	21:53	8S522	MFM	Departure	12.2	-	-
27-Jun	08:22	3A061	YFT	Arrival	11.2	-	-
27-Jun	08:32	8S210	MFM	Arrival	10.6	-	-
27-Jun	09:59	3A071	MFM	Arrival	11.8	-	-
27-Jun	10:39	3A081	ZUI	Arrival	12.4	-	-
27-Jun	10:44	8S212	MFM	Arrival	12.4	-	-
27-Jun	11:13	8S121	MFM	Departure	11.8	-	-
27-Jun	11:24	3A063	YFT	Arrival	11.5	-	-
27-Jun	12:15	3A168	YFT	Departure	11.3	-	-
27-Jun	12:20	3A181	ZUI	Departure	13.4	-	-
27-Jun	12:45	8S215	MFM	Arrival	12.7	-	-
27-Jun	13:04	3A064	YFT	Arrival	11.2	-	-
27-Jun	13:19	8S123	MFM	Departure	12.8	-	-
27-Jun	13:46	3A082	ZUI	Arrival	13.1	-	-
27-Jun	14:14	3A182	ZUI	Departure	13.7	-	-
27-Jun	14:17	3A164	YFT	Departure	11.1	-	-
27-Jun	15:04	3A065	YFT	Arrival	11.7	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
27-Jun	16:09	3A167	YFT	Departure	11.6	-	-
27-Jun	16:47	3A083	ZUI	Arrival	12.8	-	-
27-Jun	16:48	8S218	MFM	Arrival	13	-	-
27-Jun	17:00	3A067	YFT	Arrival	12.6	-	-
27-Jun	17:08	3A183	ZUI	Departure	11.8	-	-
27-Jun	17:18	8S126	MFM	Departure	12.4	-	-
27-Jun	19:05	3A166	YFT	Departure	11.9	-	-
27-Jun	19:53	3A084	ZUI	Arrival	12.3	-	-
27-Jun	20:16	3A185	ZUI	Departure	12.8	-	-
27-Jun	20:59	8S2113	MFM	Arrival	11.6	-	-
27-Jun	21:02	3A169	YFT	Departure	12.3	-	-
27-Jun	22:05	8S522	MFM	Departure	12.8	-	-
28-Jun	08:29	8S210	MFM	Arrival	12.9	-	-
28-Jun	08:31	3A061	YFT	Arrival	12.5	-	-
28-Jun	09:50	3A071	MFM	Arrival	12	-	-
28-Jun	10:40	8S212	MFM	Arrival	12.1	-	-
28-Jun	10:42	3A081	ZUI	Arrival	12.6	-	-
28-Jun	11:07	8S121	MFM	Departure	12.8	-	-
28-Jun	11:19	3A063	YFT	Arrival	12.3	-	-
28-Jun	12:11	3A168	YFT	Departure	12.5	-	-
28-Jun	12:16	3A181	ZUI	Departure	13.4	-	-
28-Jun	12:55	8S215	MFM	Arrival	12.3	-	-
28-Jun	13:05	3A064	YFT	Arrival	11.4	<= 5	< 1min
28-Jun	13:18	8S123	MFM	Departure	13.2	-	-
28-Jun	13:46	3A082	ZUI	Arrival	13.2	-	-
28-Jun	14:13	3A164	YFT	Departure	11.9	-	-
28-Jun	14:15	3A182	ZUI	Departure	13.6	-	-
28-Jun	15:09	3A065	YFT	Arrival	12.9	-	-
28-Jun	16:13	3A167	YFT	Departure	12.5	-	-
28-Jun	16:44	3A083	ZUI	Arrival	12.8	-	-
28-Jun	16:50	8S218	MFM	Arrival	12.2	-	-
28-Jun	17:03	3A067	YFT	Arrival	12.1	-	-
28-Jun	17:09	3A183	ZUI	Departure	12.3	-	-
28-Jun	17:12	8S126	MFM	Departure	13.1	-	-
28-Jun	19:00	3A166	YFT	Departure	12.7	-	-
28-Jun	19:47	3A084	ZUI	Arrival	12.8	-	-
28-Jun	20:11	3A185	ZUI	Departure	12.3	-	-
28-Jun	21:02	8S2113	MFM	Arrival	12.3	-	-
28-Jun	21:04	3A169	YFT	Departure	11.3	<= 5	< 1min

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM Macao (Maritime Ferry Terminal) YFT Macao (Taipa) ZUI Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
28-Jun	21:54	8S522	MFM	Departure	12.7	-	-
29-Jun	08:18	3A061	YFT	Arrival	13.5	-	-
29-Jun	08:36	8S210	MFM	Arrival	12.7	-	-
29-Jun	10:10	3A071	MFM	Arrival	13.3	<= 5	< 1min
29-Jun	10:40	8S212	MFM	Arrival	12.7	-	-
29-Jun	10:45	3A081	ZUI	Arrival	12.8	-	-
29-Jun	11:04	8S121	MFM	Departure	13.3	-	-
29-Jun	11:24	3A063	YFT	Arrival	11.5	-	-
29-Jun	12:13	3A181	ZUI	Departure	13.2	-	-
29-Jun	12:14	3A168	YFT	Departure	12.1	-	-
29-Jun	13:00	8S215	MFM	Arrival	10.3	-	-
29-Jun	13:04	3A064	YFT	Arrival	13.2	-	-
29-Jun	13:21	8S123	MFM	Departure	11.5	-	-
29-Jun	13:46	3A082	ZUI	Arrival	14	-	-
29-Jun	14:17	3A164	YFT	Departure	13.7	-	-
29-Jun	14:19	3A182	ZUI	Departure	12.2	-	-
29-Jun	15:16	3A065	YFT	Arrival	12.3	-	-
29-Jun	16:18	3A167	YFT	Departure	12	-	-
29-Jun	16:41	8S218	MFM	Arrival	11.2	-	-
29-Jun	16:47	3A083	ZUI	Arrival	13.1	-	-
29-Jun	17:02	3A067	YFT	Arrival	13.6	-	-
29-Jun	17:07	3A183	ZUI	Departure	12.6	-	-
29-Jun	17:07	8S126	MFM	Departure	12.4	-	-
29-Jun	19:05	3A166	YFT	Departure	12.4	-	-
29-Jun	19:54	3A084	ZUI	Arrival	13.1	-	-
29-Jun	20:08	3A185	ZUI	Departure	12.1	-	-
29-Jun	20:55	8S2113	MFM	Arrival	12.3	-	-
29-Jun	21:08	3A169	YFT	Departure	13.1	-	-
29-Jun	21:57	8S522	MFM	Departure	12.7	-	-
30-Jun	08:20	3A061	YFT	Arrival	12.9	-	-
30-Jun	08:39	8S210	MFM	Arrival	12.2	-	-
30-Jun	09:58	3A071	MFM	Arrival	11.9	-	-
30-Jun	10:41	8S212	MFM	Arrival	11.9	-	-
30-Jun	10:51	3A081	ZUI	Arrival	12.7	-	-
30-Jun	11:03	8S121	MFM	Departure	11.6	-	-
30-Jun	11:17	3A063	YFT	Arrival	12.4	-	-
30-Jun	12:17	3A181	ZUI	Departure	13	-	-
30-Jun	12:18	3A168	YFT	Departure	12.7	-	-
30-Jun	12:47	8S215	MFM	Arrival	11.5	-	-

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [MFM - Macao (Maritime Ferry Terminal) YFT - Macao (Taipa) ZUI - Zhuhai Jiuzhou]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
30-Jun	12:59	3A064	YFT	Arrival	12	-	-
30-Jun	13:19	8S123	MFM	Departure	13.1	-	-
30-Jun	13:46	3A082	ZUI	Arrival	12.9	-	-
30-Jun	14:17	3A164	YFT	Departure	12.5	-	-
30-Jun	14:18	3A182	ZUI	Departure	13.4	-	-
30-Jun	14:54	3A065	YFT	Arrival	12.6	-	-
30-Jun	16:11	3A167	YFT	Departure	12.5	-	-
30-Jun	16:40	3A083	ZUI	Arrival	13.2	-	-
30-Jun	16:42	8S218	MFM	Arrival	12.4	-	-
30-Jun	17:01	3A183	ZUI	Departure	13.3	-	-
30-Jun	17:09	8S126	MFM	Departure	13.2	-	-
30-Jun	17:17	3A067	YFT	Arrival	12.9	-	-
30-Jun	19:06	3A166	YFT	Departure	11.7	-	-
30-Jun	19:48	3A084	ZUI	Arrival	12.7		
30-Jun	20:19	3A185	ZUI	Departure	12.9	-	-
30-Jun	21:04	8S2113	MFM	Arrival	11.6	-	-
30-Jun	21:06	3A169	YFT	Departure	12.2	-	-
30-Jun	22:11	8S522	MFM	Departure	11.3	-	-

Follow-up on instantaneous speeding

Referring to the data of SkyPier HSF movements in June 2017, instantaneous speeding (i.e. a sudden change in speed at over 15 knots for a short period of time) within the SCZ was recorded from 12 HSF movements. The duration of instantaneous speeding of 10 HSF movements were less than one minute and the remaining two were less than two minutes. The AIS data and ferry operators' responses showed the cases were due to local strong water currents. The captain had reduced speed and maintained the speed at less than 15 knots after the incidents.

Five HSF movements with no AIS data and 10 HSF movements with insufficient transmission of AIS data were received in June 2017. AIS data were retrieved from other sources such as Marine Traffic Data and Shipxy. Vessel captain was also requested to provide the radar track photos to indicate the vessel entered the SCZ though the gate access point with no speeding in the SCZ.